



# PUBLIC NOTICE

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## AUCTION OF FLEXIBLE-USE SERVICE LICENSES IN THE 3.45–3.55 GHz BAND FOR NEXT-GENERATION WIRELESS SERVICES

### COMMENT SOUGHT ON COMPETITIVE BIDDING PROCEDURES FOR AUCTION 110

AU Docket No. 21-62

Comment Date: April 14, 2021

Reply Comment Date: April 29, 2021

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## I. INTRODUCTION

1. By this Public Notice, we seek comment on the procedures to be used for Auction 110, the auction of new flexible-use licenses in the 3.45–3.55 GHz band (the 3.45 GHz Service). We expect the bidding for licenses in Auction 110 to commence in early October 2021.<sup>1</sup> We propose to use an ascending clock auction format for the licenses offered in Auction 110. By initiating the pre-auction processes for assigning licenses in Auction 110, we take another important step towards releasing critical mid-band spectrum to the market and furthering the deployment of fifth-generation (5G) and other advanced wireless services across the country. This Public Notice seeks comment on proposed auction procedures for bidding to acquire licenses in Auction 110.

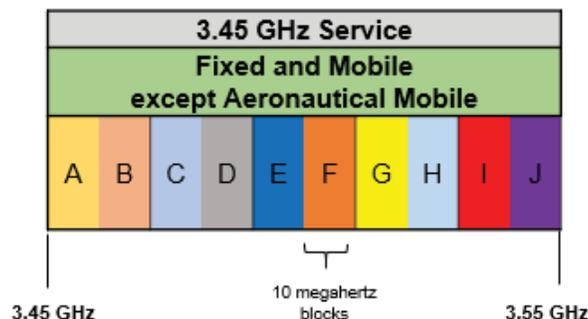
## II. LICENSES TO BE OFFERED IN AUCTION 110

2. Auction 110 will offer 4,060 new flexible-use licenses for spectrum in the 3.45–3.55 GHz band throughout the contiguous United States, subject to cooperative sharing requirements.<sup>2</sup> We will offer up to 100 megahertz of spectrum licensed on an unpaired basis and divided into ten 10-megahertz blocks in partial economic area (PEA)-based geographic areas located in the contiguous 48 states and the District of Columbia (PEAs 1–41, 43–211, 213–263, 265–297, 299–359, and 361–411).<sup>3</sup> We will designate these 10-megahertz blocks A through J, and they will be licensed according to the following channel plan:

<sup>1</sup> Congress has mandated that a system of competitive bidding to grant flexible-use licenses in the 3.45–3.55 GHz band begin no later than December 31, 2021. Consolidated Appropriations Act, 2021, H.R. 133, 116th Cong., Div. FF, Title IX § 905(d)(1) (2020). Southern Communications Services, Inc. d/b/a Southern Linc (Southern Linc) has suggested that we delay the start of bidding in Auction 110, citing concerns about potential auction participants’ ability to arrange financing in time to submit necessary upfront payments. Letter from David D. Rines, Counsel to Southern Linc, to Marlene H. Dortch, Secretary, FCC, AU Docket No. 21-62, at 2 (filed Mar. 8, 2021). We note, however, that the proposed timeline is consistent with our standard practice. See *Federal Communications Commission; Pre-Auction Timeline*, [www.fcc.gov/pre-auction-timeline](http://www.fcc.gov/pre-auction-timeline) (last visited Mar. 16, 2021) (noting Comment Public Notice “approximately 4-6 months prior to auction”). Moreover, we understand that other parties have a strong interest in having this spectrum available for the benefit of consumers as soon as practicable. See, e.g., Letter from Jeffrey H. Blum, DISH, to Marlene H. Dortch, Secretary, FCC, AU Docket No. 21-62, at 1 (filed Mar. 5, 2021) (urging the Commission to auction licenses in the 3.45 GHz band “without delay”).

<sup>2</sup> We separately adopt today the *3.45 GHz Second Report and Order*, which describes in detail the rules applicable to the 3.45 GHz Service licenses. See generally *Facilitating Shared Use in the 3100-3550 MHz Band*, Second Report and Order, Order on Reconsideration, and Order of Proposed Modification, FCC 21-32 (Mar. 18, 2021) (*3.45 GHz Second Report & Order*).

<sup>3</sup> *Id.* at 2, 23-24, 41, paras. 1, 58, 111-12. At this time, we will not issue flexible-use licenses for the following PEAs: Honolulu, Anchorage, Kodiak, Fairbanks, Juneau, Puerto Rico, Guam-Northern Mariana Islands, U.S. Virgin Islands, American Samoa, and the Gulf of Mexico (PEAs numbers 42, 212, 264, 298, 360, 412–416). *Id.* at 42, para. 114.



3. All 3.45 GHz Service licenses will be issued for 15-year, renewable license terms.<sup>4</sup> Licensees may hold up to four 10-megahertz blocks (out of a total of ten) in the 3.45–3.55 GHz band within any PEA at any given time for the first four years after the close of the auction.<sup>5</sup> A licensee in the 3.45–3.55 GHz band may provide any services permitted under terrestrial fixed or mobile, except aeronautical mobile, allocations, as set forth in the non-Federal Government column of the Table of Frequency Allocations in section 2.106 of the Commission’s rules, as modified by the *3.45 GHz Second Report and Order*.<sup>6</sup>

4. Notwithstanding Commission resources described in this Public Notice, **each potential bidder is solely responsible for investigating and evaluating all technical and marketplace factors that may have a bearing on the potential uses of a license that it may seek in Auction 110.** In addition to the typical due diligence considerations that we encourage of bidders in all auctions,<sup>7</sup> we call particular attention in Auction 110 to the spectrum-sharing and relocation issues described below and in the *3.45 GHz Second Report and Order*.<sup>8</sup> Each applicant should closely follow releases from the Commission concerning these issues and consider carefully the technical and economic implications for commercial use of the 3.45–3.55 GHz band. **The Commission makes no representations or warranties about the use of this spectrum for particular services, or about the information in Commission databases that is furnished by outside parties. Each applicant should be aware that a Commission auction represents an opportunity to become a Commission licensee, subject to certain conditions and regulations. This includes the established authority of the Commission to alter the terms of existing licenses by rulemaking, which is equally applicable to licenses awarded by auction.**<sup>9</sup> A Commission auction does not constitute an endorsement by the Commission of any particular service, technology, or product, nor does a Commission license constitute a guarantee of business success.

<sup>4</sup> See *id.* at 43, para. 116.

<sup>5</sup> See *id.* at 36-39, paras. 101-06.

<sup>6</sup> See *id.* at 9-11, paras. 17-19; see also 47 CFR § 2.106.

<sup>7</sup> See, e.g., *Auctions of Upper Microwave Flexible Use Licenses for Next-Generation Wireless Services; Comment Sought on Competitive Bidding Procedures for Auctions 101 (28 GHz) and 102 (24 GHz); Bidding in Auction 101 Scheduled to Begin November 14, 2018*, AU Docket No. 18-35, Public Notice, 33 FCC Rcd 4103, 4116-17, paras. 36-41 (2018).

<sup>8</sup> See generally *3.45 GHz Second Report and Order* at 11-23, 54-60, paras. 20-57, 149-166.

<sup>9</sup> See, e.g., *Cellco P’ship v. FCC*, 700 F.3d 534, 542 (D.C. Cir. 2012); *Celtronix Telemetry, Inc. v. FCC*, 272 F.3d 585, 589 (D.C. Cir. 2001) (citing 47 U.S.C. § 309(j)(6)(D)).

**A. Cooperative Sharing in the 3.45–3.55 GHz Band**

5. The 3.45–3.55 GHz band, which is currently used by the Department of Defense (DoD) for high- and low-powered radar systems on fixed, mobile, shipborne, and airborne platforms, will operate using a cooperative sharing framework under which existing federal users are prohibited from causing harmful interference to non-federal operations, except in limited circumstances and in locations where current incumbent federal systems will remain in the band.<sup>10</sup> Specifically, non-federal systems are not entitled to protection against harmful interference from federal operations (and limited restrictions may be placed on non-federal operations), under the following circumstances: (1) in “Cooperative Planning Areas” identified by the DoD in which it anticipates that federal operations will continue after the assignment of flexible use licenses in the band;<sup>11</sup> and (2) in “Periodic Use Areas” that overlap with certain Cooperative Planning Areas, in which the DoD will need episodic access to all or a portion of the band in specific, limited geographic areas.<sup>12</sup> Cooperative Planning Areas and Periodic Use Areas do not preclude commercial operations within their boundaries. Rather, incumbent federal operations<sup>13</sup> and new flexible use operations must coordinate with each other to facilitate shared use of the band in these specified areas and during specified time periods as described in the *3.45 GHz Second Report and Order*.<sup>14</sup>

**B. Relocation of Secondary Non-Federal Radiolocation Operations**

6. In addition to the federal users operating in the 3.45–3.55 GHz band, the 3.3–3.55 GHz band is currently used by secondary non-federal radiolocation licensees<sup>15</sup> that will be relocated to the 2.9–3.0 GHz band no later than 180 days after the flexible-use licenses won in Auction 110 are granted.<sup>16</sup> In order to facilitate the speedy clearing of the 3.3–3.55 GHz band, we have adopted in the *3.45 GHz Second Report and Order* a requirement that licensees in the new 3.45 GHz Service reimburse the current 3.3–3.55 licensees for their costs related to the relocation of their operations to the 2.9-3.0 GHz band.<sup>17</sup> Auction 110 winning bidders will be required to pay these reimbursement costs in addition to their winning bid amounts. For additional information about cost-sharing and reimbursement procedures related to the licenses offered in Auction 110, potential bidders should carefully review the *3.45 GHz Second Report and Order*.<sup>18</sup>

**C. Commercial Spectrum Enhancement Act/Spectrum Act Requirements**

7. The spectrum in the 3.45–3.55 GHz band is covered by a Congressional mandate that requires auction proceeds to be used to fund the estimated relocation or sharing costs of incumbent Federal entities.<sup>19</sup> In 2004, the Commercial Spectrum Enhancement Act (CSEA) established a Spectrum

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<sup>10</sup> See *3.45 GHz Second Report and Order* at 5-6, 11, paras. 8-9, 21.

<sup>11</sup> See *id.* at 12-13, paras. 23-24.

<sup>12</sup> See *id.* at 13-14, para. 25.

<sup>13</sup> Incumbent operations include all current and planned federal use in the 3.45–3.55 GHz band.

<sup>14</sup> *3.45 GHz Second Report and Order* at 12-23, paras. 23-57.

<sup>15</sup> 47 CFR § 2.106.

<sup>16</sup> See *3.45 GHz Second Report and Order* at 55-56, paras. 150-53.

<sup>17</sup> See generally *id.* at 55-59, paras. 154-65.

<sup>18</sup> *Id.*

<sup>19</sup> See 47 U.S.C. §§ 309(j)(8)(D), 923(g).

Relocation Fund (SRF) to reimburse eligible Federal agencies operating on certain frequencies that have been reallocated from Federal to non-Federal use for the cost of relocating their operations.<sup>20</sup>

8. In addition to requiring that specified auction proceeds be deposited in the SRF, the CSEA, as amended by the Spectrum Act, requires that the total cash proceeds from any auction of eligible frequencies must equal at least 110% of the estimated relocation or sharing costs provided to the Commission by the National Telecommunications and Information Administration (NTIA), and prohibits the Commission from concluding any auction of eligible frequencies that falls short of this amount.<sup>21</sup> We seek comment below on a proposed aggregate reserve price that will meet this statutory requirement, determined as discussed in Section III.F, below.

9. The NTIA provides the Commission its estimate of eligible Federal entities' relocation or sharing costs and the timelines for such relocation or sharing pursuant to the requirements of the CSEA.<sup>22</sup> On January 14, 2021, NTIA provided to the Commission an estimate of \$13,432,140,300 for the relocation or sharing costs of the incumbent Federal entities currently operating in the 3.45–3.55 GHz band.<sup>23</sup>

### III. IMPLEMENTATION OF PART 1 COMPETITIVE BIDDING RULES AND REQUIREMENTS

10. In the *3.45 GHz Second Report and Order*, the Commission decided to conduct any auction of new flexible-use licenses for the 3.45 GHz Service in conformity with the amended Part 1 competitive bidding rules.<sup>24</sup> As part of the pre-bidding process for each auction, we seek comment on various procedures described in those rules, as mandated by section 309(j) of the Communications Act of 1934, as amended.<sup>25</sup>

11. The Commission's Part 1 rules require each applicant seeking to bid to acquire licenses in a spectrum auction to provide certain information in a short-form application (FCC Form 175), including ownership details and numerous certifications.<sup>26</sup> Part 1, Subpart Q's competitive bidding rules also contain a framework for the implementation of a competitive bidding design, application and certification

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<sup>20</sup> *See id.* § 928.

<sup>21</sup> *See id.* § 309(j)(16)(A), (B).

<sup>22</sup> *See id.* § 923(g)(4). The Spectrum Act amends to the CSEA require Federal agencies authorized to use eligible frequencies to submit a transition plan no later than 240 days before an auction for such frequencies is scheduled to begin. *See* 47 U.S.C. § 923(h)(1). The Federal agency transition plans are reviewed by a Technical Panel, which must submit a report on the sufficiency of each transition plan to the NTIA and the applying Federal agency no later than 30 days after submission of the plan. *See* 47 U.S.C. § 923(h)(4)(A); 47 C.F.R. § 301.120(a). If the Technical Panel finds a Federal agency's plan to be insufficient with respect to the execution, timing, or cost of the agency's planned transition, the agency must submit a revised plan within 90 days. *See* 47 U.S.C. § 923(h)(4)(B). The NTIA must make the transition plans available on its website (with the exception of any classified information contained therein) no later than 120 days before the auction's scheduled start date. *See* 47 U.S.C. § 923(h)(5). Congress exempted the 3.45-3.55 GHz band from requirements of notice to NTIA of the Commission's intent to auction frequencies subject to CSEA. *See* Consolidated Appropriations Act, 2021, H.R. 133, 116th Cong., Div. FF, Title IX § 905(d)(2) (2020).

<sup>23</sup> Letter from Carolyn Roddy, Deputy Assistant Secretary for Communications and Information, National Telecommunications and Information Administration, to the Honorable Ajit Pai, Chairman, Federal Communications Commission, Attachment, (January 14, 2021) (*NTIA Letter*). Accordingly, we propose to adopt an aggregate reserve price of \$14,775,354,330, as discussed in Section III.F, below.

<sup>24</sup> *3.45 GHz Second Report and Order* at 50, para. 138.

<sup>25</sup> 47 U.S.C. § 309(j)(3)(E).

<sup>26</sup> *See generally* 47 CFR § 1.2105.

procedures, reporting requirements, and the prohibition of certain communications.<sup>27</sup> For auctions subject to the CSEA, such as Auction 110, the Part 1 rules also require a reserve price or prices pursuant to which the total cash proceeds from any auction of eligible frequencies shall equal at least 110% of the total estimated relocation costs provided to the Commission by the NTIA.<sup>28</sup>

#### A. Certification of Notice of Auction 110 Requirements and Procedures

12. In addition to the certifications already required under section 1.2105, we propose to require any applicant seeking to participate in Auction 110 to certify in its short-form application, under penalty of perjury, that it has read the public notice adopting procedures for the auction and that it has familiarized itself both with the auction procedures and with the requirements for obtaining a license and operating facilities in the 3.45–3.55 GHz band.<sup>29</sup> We believe that this requirement would help ensure that the applicant has reviewed the procedures for participation in the auction process and has investigated and evaluated those technical and marketplace factors that may have a bearing on its potential use of any licenses won at auction. Consequently, this requirement will promote an applicant's successful participation and will minimize its risk of defaulting on its auction obligations. As with other required certifications, an auction applicant's failure to make the required certification in its short-form application by the applicable filing deadline would render its application unacceptable for filing, and its application would be dismissed with prejudice.<sup>30</sup> We seek comment on this proposal. Are there alternative procedures that could be implemented that would better ensure that an applicant has thoroughly reviewed the auction's procedures and considered all relevant factors that may affect its participation in the auction and use of any licenses for which it is the winning bidder?

#### B. Bidding Credit Caps

13. Consistent with the Commission's decisions in the *Updating Part 1 Report and Order*,<sup>31</sup> we seek comment on establishing reasonable caps on the total amount of bidding credits that an eligible small business, very small business, or rural service provider may be awarded for Auction 110. We administer our bidding credit programs to promote small business and rural service provider participation in auctions and in the provision of spectrum-based services.<sup>32</sup>

14. Eligibility for the small business bidding credit is determined according to a tiered schedule of small business size definitions that are based on an applicant's average annual gross revenues for the relevant preceding period, and which determine the size of the bidding credit discount.<sup>33</sup> In the *Updating Part 1 Report and Order*, the Commission revised the gross revenue thresholds that define the

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<sup>27</sup> See generally *id.* §§ 1.2101-1.2114.

<sup>28</sup> *Id.* § 1.2104(c).

<sup>29</sup> This proposed certification requirement is subject to approval by the Office of Management and Budget (OMB), pursuant to the Paperwork Reduction Act of 1995, Public Law 104-13. 44 U.S.C. §§ 3501, *et seq.* The certification requirement would therefore apply to Auction 110 only if it has been approved by OMB and notice of such approval has been published in the Federal Register prior to the opening of the short-form application window for Auction 110.

<sup>30</sup> See 47 CFR. § 1.2105(b)(1).

<sup>31</sup> See generally *In the Matter of Updating Part 1 Competitive Bidding Rules; Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, WT Docket Nos. 14-170, 05-211, GN Docket No. 12-268, RM-11395, Report and Order; Order on Reconsideration of the First Report and Order; Third Order on Reconsideration of the Second Report and Order; Third Report and Order, 30 FCC Rcd 7493, 7539-46, paras. 109-30 (2015) (*Updating Part 1 Report and Order*); see also 47 CFR §§ 1.2110(f)(2)(ii) and (4)(ii).

<sup>32</sup> 47 U.S.C. § 309(j)(4)(D); see also *id.* §§ 309(j)(3)(A)-(B).

<sup>33</sup> See 47 CFR § 1.2110(f)(2).

eligibility tiers for the small business bidding credit,<sup>34</sup> and it adopted a rural service provider bidding credit program.<sup>35</sup> In the *3.45 GHz Second Report and Order* that we also adopt today, we determined that eligibility for the small business bidding credit in the auction of licenses in the 3.45–3.55 GHz band would be defined using two of the thresholds of the standardized schedule of small business sizes.<sup>36</sup> Specifically, an entity with average annual gross revenues for the preceding five years not exceeding \$55 million will be designated as a “small business” eligible for a 15% bidding credit, and an entity with average annual gross revenues for the preceding five years not exceeding \$20 million will be designated as a “very small business” eligible for a 25% bidding credit.<sup>37</sup> Additionally, entities providing commercial communications services to a customer base of fewer than 250,000 combined wireless, wireline, broadband, and cable subscribers in primarily rural areas will be eligible for the 15% rural service provider bidding credit.<sup>38</sup>

15. To protect the integrity of the bidding credit program and to mitigate the incentives for abuse, the Commission, in the *Updating Part 1 Report and Order*, established a process to implement a reasonable cap on the total bidding credit amount that an eligible small business or rural service provider may be awarded in any auction, based on an evaluation of the expected capital requirements presented by the particular service and inventory of licenses being auctioned.<sup>39</sup> The Commission determined that bidding credit caps would be implemented on an auction-by-auction basis, but resolved that, for any particular auction, the total amount of the bidding credit cap for small businesses would not be less than \$25 million, and the bidding credit cap for rural service providers would not be less than \$10 million.<sup>40</sup> In each of its most recent spectrum auctions, the Commission adopted a \$25 million cap on the total bidding

<sup>34</sup> *Updating Part 1 Report and Order*, 30 FCC Rcd at 7524-25, paras. 73-74. The Commission retained the existing 15%, 25%, and 35% tiers of the small business bidding credit program but revised the gross revenue thresholds that define eligibility for each tier. *Id.* at 7523-25, paras. 72-74.

<sup>35</sup> *Id.* at 7530-31, para. 88; *see also* 47 CFR § 1.2110(f)(4).

<sup>36</sup> *3.45 GHz Second Report and Order* at 52-53, para. 144; *see also* 47 CFR § 1.2110(f)(2)(i). The Commission defines the small business size standards on a service-by-service basis, after evaluating the associated characteristics and capital requirements of each service. 47 CFR § 1.2110(c)(1); *see also id.* § 1.2110(b)(1)(i); *Updating Part 1 Report and Order*, 30 FCC Rcd at 7529, para. 85.

<sup>37</sup> *See 3.45 GHz Second Report and Order* at 53-54, para. 146. (“We believe that this two-tiered approach has been successful in the past, and we will employ it once again.”). The standardized schedule of bidding credits provided in section 1.2110(f)(2)(i) defines small businesses based on average gross revenues for the preceding three years. In December 2018, Congress revised the standard set out in the Small Business Act for categorizing a business concern as a “small business concern” by providing as a general matter that a Federal agency cannot propose to categorize a business concern as a “small business concern” for Small Business Act purposes unless the size of the concern is based on its annual average gross receipts “over a period of not less than 5 years.” 15 U.S.C. § 632(a)(2)(C)(ii)(II), *amended by* Small Business Runway Extension Act of 2018, Pub. L. 115-324, 132 Stat. 4444 (2018). In December 2019, the SBA adopted new rules implementing the requirements of the Small Business Runway Extension Act and modifying its method for calculation of average annual receipts used to prescribe size standards for small businesses from a three-year to a five-year average period. Small Business Administration, *Small Business Size Standards: Calculation of Annual Average Receipts*, 84 Fed. Reg. 66561 (Dec. 5, 2019). Accordingly, consistent with this statutory requirement and the SBA’s new rules, average annual gross revenues for purposes of small business bidding credits in this band will be based on the preceding five years. *3.45 GHz Second Report and Order* at 52-53, para. 144, n.357.

<sup>38</sup> *3.45 GHz Second Report and Order* at 54, paras. 147-48. The Commission determines eligibility for bidding credits, including the rural service provider bidding credit, on a service-by-service basis. *See* 47 CFR § 1.2110(f)(1); *see also Updating Part 1 Report and Order*, 30 FCC Rcd at 7529, para. 85. The Commission defined “rural area” as a county with a population density of 100 persons or fewer per square mile. *Updating Part 1 Report and Order*, 30 FCC Rcd at 7536-37, para. 104 & n.340.

<sup>39</sup> *See Updating Part 1 Report and Order*, 30 FCC Rcd at 7541, 7544, paras. 114, 119.

<sup>40</sup> *Id.* at 7541, para. 114; *see also* 47 CFR §§ 1.2110(f)(2)(ii), (4)(ii).

credit amount that may be awarded to an eligible small business in each auction and a \$10 million cap on rural service provider bidding credits in each auction.<sup>41</sup>

16. We propose to adopt the same small business bidding credit caps for Auction 110. As in our most recent spectrum auctions, we believe that the range of potential use cases suitable for spectrum in the 3.45–3.55 GHz band, combined with the relatively small geographic areas for new flexible-use licenses in the 3.45 GHz Service, may permit deployment of smaller scale networks with lower total costs.<sup>42</sup> Moreover, recent auction data suggests that the proposed caps will allow the substantial majority of eligible small businesses in the auction to take advantage of the bidding credit program.<sup>43</sup> We therefore believe that our proposed caps will promote the statutory goals of providing meaningful opportunities for *bona fide* small businesses to compete in auctions and in the provision of spectrum-based services,<sup>44</sup> without compromising our responsibility to prevent unjust enrichment and ensure efficient and intensive use of spectrum.<sup>45</sup>

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<sup>41</sup> See *Auctions of Upper Microwave Flexible Use Licenses for Next-Generation Wireless Services; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auctions 101 (28 GHz) and 102 (24 GHz); Bidding in Auction 101 Scheduled to Begin November 14, 2018*, AU Docket No. 18-85, Public Notice, 33 FCC Rcd 7575, 7609-10, para. 93 (2018) (*Auctions 101 and 102 Procedures Public Notice*); *Incentive Auction of Upper Microwave Flexible Use Service Licenses in the Upper 37 GHz, 39 GHz, and 47 GHz Bands for Next-Generation Wireless Services; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auction 103; Bidding in Auction 103 Scheduled to Begin December 10, 2019*, AU Docket No. 19-59, GN Docket No. 14-177, Public Notice, 34 FCC Rcd 5532, 5558-59, para. 79 (2019) (*Auction 103 Procedures Public Notice*); *Auction of Priority Access Licenses for the 3550–3650 MHz Band; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auction 105; Bidding in Auction 105 Scheduled to Begin June 25, 2020*, AU Docket No. 19-244, Public Notice, 35 FCC Rcd 2140, 2165, para. 77 (2020) (*Auction 105 Procedures Public Notice*); *Auction of Flexible-Use Service Licenses in the 3.7–3.98 GHz Band for Next-Generation Wireless Services; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auction 107; Bidding in Auction 107 Scheduled to Begin December 8, 2020*, AU Docket No. 20-25, Public Notice, 35 FCC Rcd 8404, 8428-29, para. 76 (2020) (*Auction 107 Procedures Public Notice*).

<sup>42</sup> See, e.g., *3.45 GHz Second Report and Order* at 41, para. 111 (“[W]e find that PEAs are the appropriate license area for the technical rules we adopt in this band.”).

<sup>43</sup> No bidder seeking a small business bidding credit exceeded the \$25 million cap in Auction 101, Auction 102, Auction 103, or Auction 105. See generally *Winning Bidders Announced for Auction of 28 GHz Upper Microwave Flexible Use Service Licenses (Auction 101)*, AU Docket No. 18-85, Public Notice, 34 FCC Rcd 4279, 4283-85, Attach. A (OEA/WTB 2019) (*Auction 101 Closing Public Notice*); *Auction of 24 GHz Upper Microwave Flexible Use Service Licenses Closes; Winning Bidders Announced for Auction 102*, AU Docket No. 18-85, Public Notice, 34 FCC Rcd 4294, 4306-08, Attach. A (OEA/WTB 2019) (*Auction 102 Closing Public Notice*); *Incentive Auction of Upper Microwave Flexible Use Service Licenses in the Upper 37 GHz, 39 GHz, and 47 GHz Bands for Next-Generation Wireless Services Closes; Winning Bidders Announced for Auction 103*, AU Docket No. 19-59, Public Notice, 35 FCC Rcd 2015, 2032-34, Attach. B (OEA/WTB 2020) (*Auction 103 Closing Public Notice*); *Auction of Priority Access Licenses in the 3550-3650 MHz Band Closes; Winning Bidders Announced for Auction 105*, AU Docket No. 19-244, Public Notice, 35 FCC Rcd 9287, Attach. A (OEA/WTB 2020) (*Auction 105 Closing Public Notice*). Only one bidder seeking a small business bidding credit exceeded the \$25 million cap in Auction 107. See generally *Auction of Flexible-Use Service Licenses in the 3.7-3.98 GHz Band; Winning Bidders Announced for Auction 107*, AU Docket No. 20-25, Public Notice, DA 21-207, Attach. A (OEA/WTB Feb. 24, 2021) (*Auction 107 Closing Public Notice*).

<sup>44</sup> See 47 U.S.C. § 309(j)(4)(D); see also *id.* §§ 309(j)(3)(A)-(B).

<sup>45</sup> See *id.* §§ 309(j)(3)(C)-(D).

17. Similarly, we propose to adopt a \$10 million cap on the total bidding credit amount that may be awarded to an eligible rural service provider in Auction 110.<sup>46</sup> Based on our experience with other spectrum auctions, we anticipate that a \$10 million cap on rural service provider bidding credits will not constrain the ability of any rural service provider to participate fully and fairly in Auction 110.<sup>47</sup> In addition, to create parity in Auction 110 among eligible small businesses and rural service providers competing against each other in smaller markets, we propose a \$10 million cap on the overall bidding credit amount that any winning small business bidder may apply to winning licenses in PEAs with populations of 500,000 or less.<sup>48</sup>

18. We seek comment on these proposed caps. Specifically, do the expected capital requirements associated with operating in the 3.45–3.55 GHz band, the potential number and value of 3.45 GHz Service licenses, past auction data, or any other considerations justify a higher cap for either type of bidding credit? Moreover, are there convincing reasons for not maintaining parity with the bidding credit caps in other recent spectrum auctions? Commenters are encouraged to identify unique circumstances and characteristics of this mid-band auction that should guide us in establishing alternative bidding credit caps, and to provide specific, data-driven arguments in support of their proposals.

19. We remind applicants applying for designated entity bidding credits that they should take due account of the requirements of the Commission's rules and implementing orders regarding *de jure* and *de facto* control of such applicants.<sup>49</sup> These rules include a prohibition, which applies to all applicants (regardless of whether they seek bidding credits), against changes in ownership of the applicant that would constitute an assignment or transfer of control.<sup>50</sup> Applicants should not expect to receive any opportunities to revise their ownership structure after the filing of their short- and long-form applications, including making revisions to their agreements or other arrangements with interest holders, lenders, or others in order to address potential concerns relating to compliance with the designated entity bidding credit requirements. This policy will help to ensure compliance with the Commission's rules applicable to the award of bidding credits prior to the start of bidding in this auction, which will involve competing bids from those who do and do not seek bidding credits, and thus preserves the integrity of the auction process.<sup>51</sup> We also believe that this will meet our objectives in awarding licenses through the competitive bidding process.<sup>52</sup>

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<sup>46</sup> An entity is not eligible for a rural service provider bidding credit if it has already claimed a small business bidding credit. 47 CFR § 1.2110(f)(4)(i).

<sup>47</sup> No rural service provider exceeded the \$10 million cap in the Broadcast Incentive Auction, Auction 101, Auction 102, Auction 103, Auction 105, or Auction 107. See generally *Incentive Auction Closing and Channel Reassignment Public Notice; the Broadcast Television Incentive Auction Closes; Reverse Auction and Forward Auction Results Announced; Final Television Band Channel Assignments Announced; Post-Auction Deadlines Announced*, AU Docket No. 14-252 et al., Public Notice, 32 FCC Rcd 2786, Attach. B (WTB/MB 2017); *Auction 101 Closing Public Notice*, 34 FCC Rcd at 4283-85, Attach. A; *Auction 102 Closing Public Notice*, 34 FCC Rcd at 4306-08, Attach. A; *Auction 103 Closing Public Notice*, 35 FCC Rcd at 2032-34, Attach. B; *Auction 105 Closing Public Notice*, 35 FCC Rcd at 9287, Attach. A; *Auction 107 Closing Public Notice*, Attach. A.

<sup>48</sup> This proposal is consistent with the approach adopted by the Commission in the Broadcast Incentive Auction, Auction 101, Auction 102, Auction 103, Auction 105, and Auction 107. See *Updating Part 1 Report and Order*, 30 FCC Rcd at 7546-47, paras. 127-28; *Auctions 101 and 102 Procedures Public Notice*, 33 FCC Rcd at 7609-10, para. 93; *Auction 103 Procedures Public Notice*, 34 FCC Rcd at 5558-59, para. 79; *Auction 105 Procedures Public Notice*, 35 FCC Rcd at 2165, para. 77; *Auction 107 Procedures Public Notice*, 35 FCC Rcd at 8428-8429, para. 76.

<sup>49</sup> See, e.g., 47 CFR §§ 1.2110-1.2111.

<sup>50</sup> *Id.* § 1.2105(b)(2). Pursuant to 47 CFR § 1.929(a)(2), any substantial change in ownership or control is classified as a major amendment. See also *id.* §§ 1.927(a)-(b), (h).

<sup>51</sup> In furtherance of this policy, applicants will not be permitted to change their bidding credit type selection (i.e., from small business to rural service provider, or vice versa) after the short-form deadline. See *Updating Part 1* (continued....)

### C. Prohibition of Certain Communications

20. The Commission's Part 1 rules require each applicant seeking to bid to acquire licenses in a spectrum auction to provide certain information in a short-form application (FCC Form 175).<sup>53</sup> Section 1.2105(c)(1) of the Commission's rules provides that, subject to specified exceptions, "[a]fter the short-form application filing deadline, all applicants are prohibited from cooperating or collaborating with respect to, communicating with or disclosing, to each other or any nationwide provider [of communications services] that is not an applicant, or, if the applicant is a nationwide provider, any non-nationwide provider that is not an applicant, in any manner the substance of their own, or each other's, or any other applicants' bids or bidding strategies (including post-auction market structure), or discussing or negotiating settlement agreements, until after the down payment deadline[.]"<sup>54</sup> This prohibition applies until after the deadline for winning bidders to submit down payment.

21. The operation of the rule prohibiting certain communications requires that the Commission identify nationwide providers in connection with each auction.<sup>55</sup> Because the applicable service rules for the 3.45–3.55 GHz band will allow a licensee to provide flexible terrestrial wireless services, including mobile services, the Commission's identification of three nationwide providers in the *Communications Marketplace Report* suggests that we should identify those same entities as nationwide providers for purposes of 3.45 GHz licenses and Auction 110.<sup>56</sup> Accordingly, consistent with the procedures adopted for prior auctions of flexible-use licenses for advanced wireless services, we propose to identify AT&T, T-Mobile, and Verizon Wireless as "nationwide providers" for the purpose of implementing our competitive bidding rules in Auction 110, including section 1.2105(c), the rule prohibiting certain communications. We seek comment on this proposal. Commenters that disagree with this designation of nationwide providers are encouraged to articulate alternative methodologies by which we should identify nationwide providers for purposes of the prohibited communications rule.

### D. Information Procedures During the Auction Process

22. As an additional safeguard to further prevent the sharing of information about applicants' bids and bidding strategies and to discourage unproductive and anti-competitive strategic behavior, we

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*Report and Order*, 30 FCC Red at 7538, para. 108 ("[A]n applicant must choose between one bidding credit and the other.").

<sup>52</sup> The Commission's objectives when awarding licenses through competitive bidding include "the development and rapid deployment of new technologies, products, and services for the benefit of the public . . . without administrative or judicial delays" and "promoting economic opportunity and competition and ensuring that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses." 47 U.S.C. § 309(j).

<sup>53</sup> See generally 47 CFR § 1.2105.

<sup>54</sup> *Id.* § 1.2105(c)(1). Section 1.2105(c)(5)(i) defines "applicant" as including all officers and directors of the entity submitting a short-form application to participate in the auction, all controlling interests of that entity, as well as all holders of partnership and other ownership interests and any stock interest amounting to 10% or more of the entity, or outstanding stock, or outstanding voting stock of the entity submitting a short-form application. *Id.* § 1.2105(c)(5)(i).

<sup>55</sup> See *Updating Part 1 Report and Order*, 30 FCC Red at 7571, para. 182 n.596.

<sup>56</sup> See *2020 Communications Marketplace Report*, GN Docket No. 20-60, Report, FCC 20-188, at 5, para. 9 (Dec. 31, 2020). This method for identifying "nationwide providers" for the purpose of implementing the Commission's competitive bidding rules is consistent with the approach used in Auctions 101, 102, 103, 105, and the forward auction portion of the Broadcast Incentive Auction. *Auctions 101 and 102 Procedures Public Notice*, 33 FCC Red at 7593, para. 44; *Auction 103 Procedures Public Notice*, 34 FCC Red at 5542, para. 27; *Auction 105 Procedures Public Notice*, 35 FCC Red at 2149, para. 28; *Application Procedures for Broadcast Incentive Auction Scheduled to Begin on March 29, 2016; Technical Formulas for Competitive Bidding*, Public Notice, 30 FCC Red 11034, 11070, para. 111 (WTB 2015).

propose to limit information available in Auction 110 in order to prevent the identification of bidders placing particular bids until after the bidding has closed.<sup>57</sup> While we generally make available to the public information provided in each applicant's FCC Form 175 following an initial review by Commission staff, we propose to not make public until after bidding has closed: (1) the PEAs that an applicant selects for bidding in its short-form application (FCC Form 175), (2) the amount of any upfront payment made by or on behalf of an applicant for Auction 110, (3) any applicant's bidding eligibility, and (4) any other bidding-related information that might reveal the identity of the bidder placing a bid.

23. As in past Commission auctions, we would not make public during a bidding round any real-time information on bidding activity. Bidders would have access both during and after a round to additional information related to their own bidding and bid eligibility.<sup>58</sup> For example, bidders would be able to view their own level of eligibility before and during the auction through the FCC auction bidding system.

24. After the close of bidding, bidders' PEA selections, upfront payment amounts, bidding eligibility, bids, and other bidding-related information would be made publicly available.

25. We seek comment on the above details of our proposal for implementing limited information procedures, or anonymous bidding, in Auction 110. Commenters opposing the use of limited information procedures in Auction 110 should explain their reasoning and propose alternative information rules.

#### **E. Upfront Payments and Bidding Eligibility**

26. In keeping with the Commission's usual practice in spectrum license auctions, we propose that applicants be required to submit upfront payments as a prerequisite to becoming qualified to bid.<sup>59</sup> The upfront payment is a refundable deposit made by an applicant to establish its eligibility to bid on licenses. Upfront payments protect against frivolous or insincere bidding and provide the Commission with a source of funds from which to collect payments owed at the close of bidding.<sup>60</sup> With these considerations in mind, the Commission proposes to calculate upfront payments based on bandwidth and license area population using a tiered approach under which the calculation will vary by market population. We propose upfront payments for a block in a PEA based on \$0.03 per MHz-pop for PEAs 1–50 and \$0.01 per MHz-pop for all other PEAs, subject to a minimum of \$500.<sup>61</sup> The proposed upfront payments equal approximately half the proposed minimum opening bids, which are established as described in Section IV.A.7, below. We seek comment on these upfront payment amounts, which are specified in the Attachment A file on the Auction 110 website at [www.fcc.gov/auction/110](http://www.fcc.gov/auction/110). If commenters believe that these upfront payment amounts are not reasonable amounts, they should explain their reasoning and suggest an alternative approach. For example, if a commenter believes that opening

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<sup>57</sup> The Commission has instituted limited information procedures in most recent spectrum auctions. *See, e.g., Auction 107 Procedures Public Notice*, 35 FCC Rcd at 8417, paras. 35-36; *Auction 105 Procedures Public Notice*, 35 FCC Rcd at 2153, paras. 36-37; *Auction 103 Procedures Public Notice*, 34 FCC Rcd at 5546, paras. 35-36; *see also* 47 CFR § 1.2104(h).

<sup>58</sup> *See* Section IV.A.5. (Availability of Bidding Information), below.

<sup>59</sup> *See* 47 CFR § 1.2106.

<sup>60</sup> *See Implementation of Section 309(j) of the Communications Act—Competitive Bidding*, PP Docket No. 93-253, Second Report and Order, 9 FCC Rcd 2348, 2377-79, paras. 169-176 (1994) (*Competitive Bidding Second Report and Order*). We note that the Commission's rules require that "[a]ny auction applicant that, pursuant to § 1.2105(a)(2)(xii), certifies that it is a former defaulter must submit an upfront payment equal to 50% more than the amount that otherwise would be required." 47 CFR § 1.2106(a).

<sup>61</sup> The results of these calculations will be rounded using the Commission's standard rounding procedures for auctions: results above \$10,000 are rounded to the nearest \$1,000; results below \$10,000 but above \$1,000 are rounded to the nearest \$100; and results below \$1,000 are rounded to the nearest \$10.

bids should be lower in PEAs that are largely covered by a Cooperative Planning Area or Periodic Use Area, it should explain how those upfront payments should be adjusted.

27. We propose to assign each generic spectrum block in a given PEA a specific number of bidding units, equal to one bidding unit per \$100 of the upfront payment listed in Attachment A. The number of bidding units for one block in a given PEA is fixed, since it is based on the MHz-pops in the block, and it does not change during the auction as prices change. Bidding units are used to measure bidder eligibility and bidding activity. We further propose that the amount of the upfront payment submitted by a bidder would determine its initial bidding eligibility in bidding units. Accordingly, a bidder that makes an upfront payment of \$1000 would have initial eligibility of 10 bidding units. To the extent that bidders wish to bid on multiple generic blocks simultaneously, whether within the same PEA or in different PEAs, they would need to ensure that their upfront payment provides enough eligibility to cover multiple blocks.

28. Under our proposed approach, a bidder's upfront payment would not be attributed to blocks in a specific PEA or PEAs, or to a particular category of blocks. A bidder may place bids on multiple blocks in PEAs consistent with its selections in its FCC Form 175, provided that the total number of bidding units associated with those blocks does not exceed its bidding eligibility. A bidder cannot increase its eligibility during the auction; it can only maintain its eligibility or decrease its eligibility. Thus, in calculating its upfront payment amount, and hence its initial bidding eligibility, an applicant must determine the maximum number of bidding units on which it may wish to bid in any single round and submit an upfront payment amount covering that total number of bidding units. We seek comment on these proposals. Commenters are encouraged to identify unique circumstances and characteristics of this mid-band auction that should guide us in establishing procedures for determining bidding eligibility, and to provide specific, data-driven arguments in support of their proposals.

#### **F. Aggregate Reserve Pursuant to CSEA**

29. Auction 110 is subject to the CSEA's requirement that the total cash proceeds from the auction equal at least 110% of the estimated relocation or sharing costs provided to the Commission by the NTIA.<sup>62</sup> The Commission's rules require that we meet this statutory requirement by establishing a reserve price.<sup>63</sup> NTIA has estimated that the relocation or sharing costs for eligible Federal entities assigned to frequencies in the 3.45–3.55 GHz band will be \$13,432,140,300.<sup>64</sup> We propose to establish a single aggregate reserve price for the auction to ensure that total cash proceeds from the auction equal at least \$14,775,354,330.

30. We propose procedures that have been used in past Commission auctions to determine whether the reserve price is met in Auction 110.<sup>65</sup> Total cash proceeds from Auction 110 will not be self-evident from the bidding prior to the conclusion of the auction. As in many services, we established

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<sup>62</sup> We provide separately for new licensees to fund relocation of secondary non-Federal users separate and apart from auction proceeds. *3.45 GHz Second Report and Order*, at 55-59, paras. 154-65. Accordingly, the CSEA reserve to fund relocation and sharing by Federal users from auction proceeds does not take into account those separate costs.

<sup>63</sup> 47 CFR 1.2104(c).

<sup>64</sup> See *NTIA Letter*, Attachment.

<sup>65</sup> See, e.g., *Auction 105 Procedures Public Notice*, 35 FCC Rcd at 2197, para. 192 (aggregate reserve in auction subject to CSEA to be met based on net winning bids); *Auction 103 Procedures Public Notice*, 34 FCC Rcd at 5585-86, paras. 167-70 (using *conservative* estimate of proceeds to announce whether required proceeds will be met); *Auction of Advanced Wireless Services Licenses Scheduled for June 29, 2006; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments and Other Procedures for Auction No. 66*, AU Docket No. 06-30, Public Notice, 21 FCC Rcd 4562, 4612-15 paras. 188-200 (2006) (Commission adoption of reserve amount for Auction 66 pursuant to the CSEA).

bidding credits for small business and rural service providers.<sup>66</sup> Winning bidders claiming such credits may pay less than the amount of their winning bids for any licenses won. In the *CSEA/Part I Declaratory Ruling*, the Commission determined that “total cash proceeds” for purposes of meeting the CSEA’s requirement means winning bids net of any applicable bidding credit discounts at the end of bidding.<sup>67</sup> Thus, whether the CSEA’s total cash proceeds requirement has been met depends on whether winning bids, net of any applicable bidding credit discounts, equal, in aggregate, at least 110% of estimated relocation costs.

31. As a preliminary matter, as in prior Commission auctions, we propose to assess whether the reserve price is met—whether the auction will generate sufficient total cash proceeds—based on bids in the clock phase of the auction and not the assignment phase.<sup>68</sup> Total cash proceeds from assignment phase payments are expected to be small relative to those from the clock phase and therefore less likely to contribute significantly to meeting the reserve price.<sup>69</sup> Given our proposal that assignment phase payments will be determined using a second-price rule, an individual bidder will have little ability to boost net winning bids in the assignment phase in order to meet the reserve price. We do not wish to require bidders or Commission staff to invest the additional time in the assignment phase if ultimately no licenses will be assigned.

32. Whether winning bidders in the clock phase claim any bidding credits that may reduce total cash proceeds to less than gross winning bids only can be determined with certainty at the close of the clock phase of bidding. However, we would estimate whether the reserve is met during the clock phase by assuming conservatively that for a category in a PEA with excess demand, blocks will be won by the bidders with the highest bidding credit percentages, to the extent that such bidders still demand blocks in that category in that PEA. In order to make bidders aware of whether the reserve is likely to be met while they are still bidding in the clock phase, we propose to indicate on the Public Reporting System (PRS) whether estimated total cash proceeds based on the bids in the most recently completed round would satisfy the reserve. We propose further to make available only to bidders information on the shortfall between the reserve and the estimated total cash proceeds, rounded to the nearest \$1000.<sup>70</sup>

33. This proposal should avoid a potential situation where the reserve price is assumed to be met, but, when bidding credits are considered, final net winning bids later prove insufficient. For a category in a PEA without excess demand, the requirement will be evaluated based on a true calculation of net revenue after bid processing, rather than on the estimate, since information on how to apply bidding credits precisely will be available in that case.

34. We seek comment on our proposed aggregate reserve price and proposed procedures for determining whether it is met. We believe that the procedures proposed here are the best way to reduce the risk that the reserve price will not be met, but we seek comment on whether there are other mechanisms that could be used, either in place of or as a supplement to the proposed procedures, that may

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<sup>66</sup> 3.45 GHz *Second Report and Order* at 53-54, paras. 146-47; *see also* 47 CFR § 1.2110(f)(2)(i).

<sup>67</sup> *Implementation of the Commercial Spectrum Enhancement Act and Modernization of the Commission's Competitive Bidding Rules and Procedures*, WT Docket No. 05-211, Declaratory Ruling and Notice of Proposed Rule Making, 20 FCC Rcd 11268, 11270-72, paras. 5-12 (2005).

<sup>68</sup> *See Auction 103 Procedures Public Notice*, 34 FCC Rcd at 5585, para. 167.

<sup>69</sup> For example, less than 1% of Auction 1002 revenues were attributable to assignment phase payments.

<sup>70</sup> *See Auction 103 Procedures Public Notice*, 34 FCC Rcd at 5586, para. 169 (adopting a similar procedure, rounding up to the nearest million).

further reduce that risk.<sup>71</sup> Commenters proposing any alternatives should explain how their proposal complies with the requirements under the CSEA and our Part 1 rules.

#### **G. Auction Delay, Suspension, or Cancellation**

35. For Auction 110, we propose that, at any time before or during the bidding process, the Office of Economics and Analytics (OEA), in conjunction with the Wireless Telecommunications Bureau (WTB), may delay, suspend, or cancel bidding in Auction 110 in the event of a natural disaster, technical obstacle, network interruption, administrative or weather necessity, evidence of an auction security breach or unlawful bidding activity, or for any other reason that affects the fair and efficient conduct of competitive bidding.<sup>72</sup> In such a case, OEA would notify participants of any such delay, suspension, or cancellation by public notice and/or through the FCC auction bidding system's announcement function. If the bidding is delayed or suspended, OEA, in its sole discretion, may elect to resume the auction starting from the beginning of the current round or from some previous round, or it may cancel the auction in its entirety. We emphasize that OEA and WTB would exercise the delegated authority to delay, suspend, or cancel bidding in Auction 110 solely at their discretion. We seek comment on this proposal.

#### **H. Deficiency Payments and Additional Default Payment Percentage**

36. Any winning bidder that defaults or is disqualified after the close of an auction (i.e., fails to remit the required down payment by the specified deadline, fails to submit a timely long-form application, fails to make full and timely final payment, or is otherwise disqualified) is liable for a default payment under section 1.2104(g)(2) of the rules.<sup>73</sup> This payment consists of a deficiency payment, equal to the difference between the amount of the bidder's winning bid and the amount of the winning bid the next time a license covering the same spectrum is won in an auction, plus an additional payment equal to a percentage of the defaulter's bid or of the subsequent winning bid, whichever is less.

37. The Commission's rules provide that, in advance of each auction, it will establish a percentage between 3% and 20% of the applicable winning bid to be assessed as an additional default payment.<sup>74</sup> As the Commission has indicated, the level of this additional payment in each auction will be based on the nature of the service and the licenses being offered.<sup>75</sup>

38. For Auction 110, we propose to establish an additional default payment of 15%, which is consistent with that adopted for recent spectrum auctions, including Auctions 101, 102, 103, and 107.<sup>76</sup>

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<sup>71</sup> See Letter from Steve B. Sharkey, Vice President, Government Affairs Technology and Engineering Policy, T-Mobile USA, Inc. to Marlene H. Dortch, Secretary, FCC, at 7 (filed Mar. 5, 2021) (recommending that the Commission seek comment on mechanisms the Commission could consider implementing in the 3.45 GHz auction, if it appears that the aggregate reserve price will not be met at or near the end of the auction's clock phase).

<sup>72</sup> See 47 CFR § 1.2104(i).

<sup>73</sup> *Id.* § 1.2104(g)(2).

<sup>74</sup> *Id.* § 1.2104(g)(2)(ii).

<sup>75</sup> *Implementation of the Commercial Spectrum Enhancement Act and Modernization of the Commission's Competitive Bidding Rules and Procedures*, Report and Order, 21 FCC Rcd 891, 903-04, para. 31 (2006) (*CSEA/Part 1 Report and Order*).

<sup>76</sup> See *Auctions 101 and 102 Procedures Public Notice*, 33 FCC Rcd at 7660, para. 295; *Auction 103 Procedures Public Notice*, 34 FCC Rcd at 5601, para. 248; *Auction 107 Procedures Public Notice*, 35 FCC Rcd at 8470, para. 37. Cf. *Auction 105 Procedures Public Notice*, 35 FCC Rcd at 2204, para. 228. In Auction 105, the Commission determined that because the auction involved an unusually large number of licenses, a higher percentage default payment than had been used in other recent auctions was necessary to ensure that entities only bid on those licenses that they reasonably expected to use. See *Auction of Priority Access Licenses for the 3550-3650 MHz Band; Comment Sought on Competitive Bidding Procedures for Auction 105; Bidding in Auction 105 Scheduled to Begin June 25, 2020*, AU Docket No. 19-244, Public Notice, 34 FCC Rcd 9215, 9235, para. 85 (2019).

As noted in the *CSEA/Part 1 Report and Order*, defaults weaken the integrity of the auction process and may impede the deployment of service to the public, and an additional default payment of up to 20% will be more effective in deterring defaults than the 3% used in some earlier auctions.<sup>77</sup> Based on experience from recent spectrum auctions that have also made available PEA-based licenses, we do not believe the detrimental effects of any defaults in Auction 110 are likely to be unusually great. In light of these considerations, we propose for Auction 110 an additional default payment of 15% of the relevant bid. We seek comment on this proposal. Commenters are encouraged to identify unique circumstances and characteristics of the licenses made available for bidding in this auction that should guide us in establishing an alternative default payment, and to provide specific, data-driven arguments in support of their proposals.

39. In case they are needed for post-auction administrative purposes, such as default or unjust enrichment payments on specific licenses, the bidding system will calculate individual per-license prices that are separate from the final auction payments that are calculated on an aggregate basis. The bidding system will apportion to individual licenses any assignment phase payments and any capped bidding credit discounts,<sup>78</sup> since in both cases, a single amount may apply to multiple licenses.<sup>79</sup>

#### IV. PROPOSED BIDDING PROCEDURES

40. We propose to conduct Auction 110 using an ascending clock auction design. Under the proposed auction format, bidding would take place in two phases. The first phase of the auction—the clock phase—would consist of successive clock bidding rounds in which bidders indicate their demands for categories of generic license blocks in specific PEAs, followed by a second phase—the assignment phase—with bidding for frequency-specific license assignments. We seek comment below on bidding procedures for the two phases of Auction 110.

41. We note the delegated authority of OEA to develop and administer auctions jointly with WTB and expect that OEA and WTB will release a technical guide shortly supplementing the information in this Public Notice and including the mathematical details and algorithms of the proposed auction design.<sup>80</sup>

##### A. Clock Phase

###### 1. Clock Auction Design

42. During the clock phase of Auction 110, bidders will indicate their demands for generic license blocks in a bidding category in specific geographic areas—in this case, PEAs. There may be one or two bidding categories in a given PEA. Our proposed clock auction format would proceed in a series of rounds, with bidding being conducted simultaneously for all spectrum blocks in all PEAs available in the auction. During each bidding round, the bidding system would announce a per-block clock price for each category in each PEA, and qualified bidders would submit, for each category and PEA for which they wish to bid, the number of blocks they seek at the clock prices associated with the current round. Bidding rounds would be open for predetermined periods of time. Bidders would be subject to activity and eligibility rules that govern the pace at which they participate in the auction.

43. Under our proposal, for each product—a category in a PEA—the clock price for a generic license block would increase from round to round if bidders indicate total demand for blocks in that product that exceeds the number of blocks available. The bidding rounds would continue until, for

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<sup>77</sup> *CSEA/Part 1 Report and Order*, 21 FCC Rcd at 902-03, para. 29.

<sup>78</sup> See Section III.B (Bidding Credit Caps), above.

<sup>79</sup> For additional details, see the Assignment Phase Technical Guide.

<sup>80</sup> See 47 CFR § 0.21(m). The Clock Phase and Assignment Phase Technical Guides detail proposals and provide examples for Auction 110.

all products, the total number of blocks that bidders demand does not exceed the supply of available blocks.

44. If the aggregate reserve price to satisfy the CSEA has been met at the time that the clock phase bidding stops, those bidders indicating demand for a product at the final clock phase price would be deemed winning bidders, and the auction will proceed to the assignment phase. If the reserve price has not been satisfied at the time bidding stops in the clock phase, the auction will end, and no licenses will be assigned.

45. Following the clock phase, if the reserve price has been met, the assignment phase will offer clock phase winners the opportunity to bid an additional amount for licenses with specific frequencies. All winning bidders, regardless of whether they bid in the assignment phase, will be assigned licenses for contiguous blocks within a category in a PEA.

46. We seek comment on specific procedures to implement this ascending clock auction and on alternative procedures for conducting, in a timely manner, an auction of 3.45–3.55 GHz licenses.

## 2. Generic License Blocks in Two Bidding Categories

47. Pursuant to the *3.45 GHz Second Report and Order*, the 3.45–3.55 GHz band will be reconfigured and licensed in uniform 10-megahertz sub-blocks in each of the 406 PEAs in the contiguous United States. In most PEAs, new licensees generally will have unrestricted use of all ten frequency blocks. In other areas, specifically in PEAs that wholly or in part cover Cooperative Planning Areas or Periodic Use Areas, licensees must coordinate with incumbent federal operations in the band, as established in the *3.45 GHz Second Report and Order*.<sup>81</sup> In some of the PEAs where coordination is required, all ten blocks will be subject to the same restrictions. In others, the restrictions may vary depending upon the frequency block—specifically, in some PEAs, the A through D blocks may be subject to different restrictions than the E through J blocks.<sup>82</sup>

48. *Categories.* We propose to establish categories for bidding such that all the blocks within a category in a PEA are similar in terms of any requirements or restrictions. Therefore, we propose bidding categories as follows: in the PEAs where all ten blocks are the same—i.e., all ten generally are unrestricted or all ten are subject to the same restrictions—the ten generic blocks will be considered Category 1, or “Cat1,” blocks. In the PEAs where the restrictions differ according to the frequency, the A through D blocks will be considered Category 1, or “Cat1,” while the E through J blocks will be considered Category 2, or “Cat2,” blocks for bidding.<sup>83</sup> Accordingly, in 334 PEAs, there will be ten generic blocks of a single Cat1 product and in 72 PEAs, there will be two products, with four generic blocks of Cat1 and six generic blocks of Cat2.

49. The proposed approach to determine bidding categories differs somewhat from the approach the Commission has taken in prior clock auctions, in that the coordination requirements on blocks in a given category in a given PEA may differ from the requirements on the same category of blocks in a different PEA. For example, the Cat1 blocks in one PEA may be unrestricted while the Cat1

<sup>81</sup> *3.45 GHz Second Report and Order* at 12-14, paras. 23-25.

<sup>82</sup> As set forth in the *3.45 GHz Second Report and Order*, the lower 40 megahertz of the band—between 3450-3490 MHz corresponding to the A through D blocks—are affected differently than the upper 60 megahertz in certain PEAs in the band. *See id.* at 15-16, paras. 30-31.

<sup>83</sup> In PEAs with two categories, we designate the A through D blocks as Cat1 and the E through J blocks as Cat2, simply to denote that for these licenses the coordination requirements in a PEA differ between the A through D blocks compared to the E through J blocks. For all licenses, we caution potential bidders to investigate carefully the restrictions that may apply to a given PEA. In particular, we note that prior to the start of bidding, the DoD will disseminate one or more workbooks that specifically describe the coordination requirements for each Cooperative Planning Area and Periodic Use Area. We will issue a Public Notice when such workbook(s) or any updates are available.

blocks in another PEA may require some degree of coordination. Similarly, the restrictions on Cat2 blocks in one PEA will likely vary from PEA to PEA. In previous auctions, blocks in a given bidding category generally have been subject to the same use requirements in all PEAs, but because the restrictions in this auction differ so widely from PEA to PEA, that approach is not feasible. Importantly, however, under our proposal for Auction 110, within any given PEA, the blocks within a category can be considered generic, and bidding in the clock phase would determine a single price that would apply to each generic block in a category in a PEA. We seek comment on this proposal for determining categories of generic blocks for bidding.

50. Our proposal for bidding on generic blocks in two categories is based on the close similarity of the blocks within each bidding category within a PEA. To the extent a bidder has a preference for licenses for specific frequencies, we propose to allow the bidder to bid for its preferred blocks in the assignment phase. However, a bidder for a generic block would not be assured that it will be assigned, or not be assigned, any particular frequency block. We seek comment on this approach, which we believe will promote the efficient management of the auction.

51. *Limit on number of blocks per bidder.* In the *3.45 GHz Second Report and Order*, we adopt a spectrum aggregation limit for flexible-use licenses in the 3.45 GHz band of a maximum of 40 megahertz (i.e., four blocks out of ten) in any PEA at any point in time for four years post-auction.<sup>84</sup> Consistent with this limit on the number of blocks that a single entity can hold in any single PEA, the bidding system will limit to four the number of blocks that a bidder can demand in any given PEA at any point in the auction. Therefore, in each bidding round, a bidder would have the opportunity to bid for a total of up to four blocks of spectrum per PEA. This spectrum aggregation limit would apply across both categories in PEAs that contain Cat1 and Cat2 blocks. As a result, no single entity would be permitted to bid on, for example, two Cat1 blocks and three Cat2 blocks within a single PEA.<sup>85</sup> An aggregation limit of four blocks would further our interest in promoting greater diversity in participation in the 3.45 GHz band by ensuring that, if licenses for all blocks in a PEA are awarded, there will be at least three winning bidders in the PEA.

### 3. Bidding Rounds

52. Under the proposed clock auction format, Auction 110 would consist of sequential bidding rounds, each followed by the release of round results. We propose to conduct bidding simultaneously for all spectrum blocks in both bidding categories for all PEAs available in the auction. In the first bidding round of Auction 110, a bidder would indicate, for each product, how many generic license blocks it demands at the minimum opening bid price. During each subsequent bidding round, the bidding system would announce a per-block clock price for each product, and qualified bidders would submit, for each product for which they wish to bid, the number of blocks they seek at the clock prices associated with the current round. Bidding rounds would be open for predetermined periods of time. Bidders would be subject to activity and eligibility rules that govern the pace at which they participate in the auction.

53. For each product, the clock price for a generic license block would increase from round to round if bidders indicate total demand for that product that exceeds the number of blocks available. The bidding rounds would continue until, for every product, the total number of blocks that bidders demand does not exceed the supply of available blocks. At that point, those bidders indicating demand for a block at the final price would be deemed winning bidders.

54. The initial bidding schedule would be announced in a public notice to be released at least one week before the start of bidding. Under our proposal, OEA would retain the discretion to adjust the bidding schedule in order to foster an auction pace that reasonably balances speed with the bidders' need

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<sup>84</sup> *3.45 GHz Second Report and Order* at 36-39, paras. 101-06.

<sup>85</sup> *See id.* at 37-38, para. 104.

to study round results and adjust their bidding strategies. Such adjustments may include changes in the amount of time for bidding rounds, the amount of time between rounds, or the number of rounds per day, and would depend upon bidding activity and other factors. We seek comment on this proposal. Commenters should address the role of the bidding schedule in managing the pace of the auction and should specifically discuss the tradeoffs in managing auction pace by bidding schedule changes, by changing the activity requirement percentage or the bid increment percentage, or by using other means.

55. We propose to conduct Auction 110 over the Internet. A bidder would be able to submit its bids using the bidding system's *upload* function, which allows bid files in a comma-separated values (CSV) text format to be uploaded. The bidding system would not allow bids to be submitted unless the bidder selected the PEAs on its FCC Form 175 and the bidder has sufficient bidding eligibility.<sup>86</sup>

56. During each round of the bidding, a bidder would also be able to remove bids placed in the current bidding round. If a bidder modifies its bids for blocks in a PEA in a round, the system would take the last bid submission as that bidder's bid for the round.<sup>87</sup>

#### 4. Stopping Rule

57. We propose a simultaneous stopping rule for Auction 110, under which all blocks in all PEAs would remain available for bidding until the bidding stops in every PEA.<sup>88</sup> Specifically, we propose that bidding close for all blocks after the first round in which there is no excess demand in any product.<sup>89</sup> Consequently, under this approach, it is not possible to determine in advance how long Auction 110 would last. We seek comment on our proposed simultaneous stopping rule.

#### 5. Availability of Bidding Information

58. We propose to make public after each round of Auction 110, for each category in each PEA: the supply, the aggregate demand, the posted price of the last completed round,<sup>90</sup> and the clock price for the next round. The identities of bidders demanding blocks in a specific category or PEA would not be disclosed until after Auction 110 concludes (i.e., after the close of bidding).<sup>91</sup>

59. Under our proposal, each bidder would have access to additional information related to its own bidding and bid eligibility. Specifically, after the bids of a round have been processed, the

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<sup>86</sup> See Section III.E (Upfront Payments and Bidding Eligibility), above.

<sup>87</sup> No bids may be withdrawn after the close of a round. Unlike an auction conducted using the Commission's standard simultaneous multiple-round auction format for bidding on frequency-specific licenses (as opposed to generic blocks), there are no provisionally winning bids in a clock auction. As a result, the concept of bid withdrawals as used in standard simultaneous multiple-round auctions does not apply to a clock auction.

<sup>88</sup> The Commission has discretion to establish stopping rules before or during multiple round auctions in order to complete the auction within a reasonable time. 47 CFR § 1.2104(e); see also, e.g., *Auction of Advanced Wireless Services (AWS-3) Licenses Scheduled for November 13, 2014; Notice and Filing Requirements, Reserve Prices, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auction 97*, AU Docket No. 14-78, Public Notice, 29 FCC Rcd 8386, 8434-36, paras. 172-78 (WTB 2014) (*Auction 97 Procedures Public Notice*); *Auction of H Block Licenses in the 1915–1920 MHz and 1995–2000 MHz Bands Scheduled for January 14, 2014; Notice and Filing Requirements, Reserve Price, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auction 96*, AU Docket No. 13-178, Public Notice, 28 FCC Rcd 13019, 13061, paras. 161-63 (WTB 2013) (*Auction 96 Procedures Public Notice*).

<sup>89</sup> Excess demand is calculated as the difference between the number of blocks of aggregate demand and supply.

<sup>90</sup> The posted price of the previous round is, generally, the start-of-round price if supply exceeds demand; the clock price of the previous round if demand exceeds supply; or the price at which a reduction caused demand to equal supply. See the Clock Phase Technical Guide for more details.

<sup>91</sup> See Section III.D (Information Procedures During the Auction Process), above.

bidding system would inform each bidder of the number of blocks it holds after the round (its processed demand) for every product and its eligibility for the next round.

60. Limiting the availability of bidding information during the auction balances our interest in providing bidders with sufficient information about the status of their own bids and the general level of bidding in all areas and license categories to allow them to bid confidently and effectively, while restricting the availability of information that may facilitate identification of bidders placing particular bids, which could potentially lead to undesirable strategic bidding.

#### 6. Activity Rule, Contingent Bidding Limit, and Reducing Eligibility

61. In order to ensure that the auction closes within a reasonable period of time, an activity rule requires bidders to bid actively throughout the auction, rather than wait until late in the auction before participating. For this clock auction, a bidder's activity in a round for purposes of the activity rule would be the sum of the bidding units associated with the bidder's demands as applied by the auction system during bid processing. Bidders are required to be active on a specific percentage (the *activity requirement percentage*) of their current bidding eligibility during each round of the auction. Failure to maintain the requisite activity level would result in a reduction in the bidder's eligibility, possibly curtailing or eliminating the bidder's ability to place bids in subsequent rounds of the auction.

62. We propose to require that bidders maintain a fixed, high level of activity in each round of Auction 110 in order to maintain bidding eligibility. Specifically, we propose to require that bidders be active on between 90% and 100% of their bidding eligibility in all clock rounds, with the specific percentage within this range to be set for each round. Thus, the activity rule would be satisfied when a bidder has bidding activity on blocks with bidding units that total 90% to 100% of its current eligibility in the round. We propose to set the activity requirement percentage initially at 95%. If the activity rule is met, then the bidder's eligibility would not change for the next round. If the activity rule is not met in a round, the bidder's eligibility would be reduced. We propose to calculate bidding activity based on the bids that are applied by the FCC auction bidding system. That is, if a bidder requests a reduction in the quantity of blocks it demands in a product, but the FCC auction bidding system cannot apply the request because demand would fall below the available supply, then the bidder's activity would reflect its unreduced demand.<sup>92</sup>

63. Because a bidder's eligibility for the next round is calculated based on the bidder's demands as applied by the auction system during bid processing, a bidder's eligibility may be reduced even if the bidder submitted bids with activity that exceeds the required activity for the round.<sup>93</sup> To potentially help a bidder avoid having its eligibility reduced as a result of submitted bids that could not be accepted during bid processing, we seek comment on additional procedures that would allow a bidder to submit bids with associated bidding activity greater than its current bidding eligibility.<sup>94</sup> However, even under these additional procedures, the bidder's activity as applied by the auction system during bid

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<sup>92</sup> Under the ascending clock auction format, the FCC auction bidding system will not allow a bidder to reduce the quantity of blocks it demands in an individual product if the reduction would result in aggregate demand falling below (or further below) the available supply of blocks in the product. *See* Section IV.A.8.a (No Excess Supply Rule for Bids to Reduce Demand), below.

<sup>93</sup> This may occur, for example, if the bidder bids to reduce its demand in PEA X by two blocks (with 10 bidding units each) and bids to increase its demand by one block (with 20 bidding units) in PEA Y. If the bidder's demand can only be reduced by one block in PEA X (because there is only one block of excess demand), the increase in PEA Y cannot be applied, and absent other bidding activity the bidder's eligibility would be reduced. *See* Sections IV.A.8.a (No Excess Supply Rule for Bids to Reduce Demand) and d. (Processed Demand), for further details on bid processing.

<sup>94</sup> For example, depending upon the bidder's overall bidding eligibility and the contingent bidding percentage, a bidder could submit an "additional" bid or bids that would be considered (in price point order with its other bids) and applied as available eligibility permits during the bid processing.

processing would not exceed the bidder's current bidding eligibility.<sup>95</sup> That is, if a bidder were allowed to submit bids with associated bidding units exceeding 100% of its current bidding eligibility, its processed activity would never exceed its eligibility.

64. Specifically, we seek comment on procedures by which, after Round 1, a bidder may submit bids with bidding units totaling up to a *contingent bidding limit* equal to the bidder's current bidding eligibility for the round times a percentage (the *contingent bidding percentage*) equal to or greater than 100%.<sup>96</sup> We seek comment on setting an initial contingent bidding percentage of 120%, which would apply beginning in Round 2. This limit would be subject to change in subsequent rounds within a range of 100% to 140%. In any bidding round, the auction bidding system would advise the bidder of its current bidding eligibility, its required bidding activity, and its contingent bidding limit.

65. Under our proposed procedures, OEA would retain the discretion to change the activity requirement percentage during the auction, and we seek comment in connection with potential additional procedures on whether OEA should similarly retain the discretion to change the contingent bidding percentage during the auction. The bidding system would announce any such changes in advance of the round in which they would take effect, giving bidders adequate notice to adjust their bidding strategies.

66. We invite comment on this activity rule proposal and we further seek comment on using a contingent bidding limit to address the potential for loss of bidding eligibility under some circumstances. We also encourage commenters to address whether we should set the activity requirement percentage between 90% and 100% for each round and, should we adopt a contingent bidding limit, whether to set the contingent bidding percentage between 100% and 140%. Further, we seek comment on where to set these percentages initially. We also seek comment on the relationship between the proposed activity rules and the ability of bidders to switch their demands across PEAs. We encourage any commenters that oppose the proposed range for the activity requirement percentage and the contingent bidding percentage range described above to explain their reasons with specificity.

67. *Missing bids.* We point out that under the proposed clock auction format, bidders are required to indicate their demands in every round, even if their demands at the new round's prices are unchanged from the previous round. Missing bids—bids that are not reconfirmed—are treated by the auction bidding system as requests to reduce to a quantity of zero blocks for the product. If these requests are applied, or applied partially, then a bidder's bidding activity, and its bidding eligibility for the next round, may be reduced.<sup>97</sup>

68. For Auction 110, we do not propose to provide for activity rule waivers to preserve a bidder's eligibility. We note that our proposal to permit a bidder to submit bids with bidding activity greater than its eligibility, within the precise limits set forth above, would address some of the circumstances under which a bidder risks losing bidding eligibility and otherwise could wish to use a bidding activity waiver, while minimizing any potential adverse impacts on bidder incentives to bid sincerely and on the price setting mechanism of the clock auction. This approach not to allow waivers is consistent with the ascending clock auction procedures used in other FCC clock auctions.<sup>98</sup> The clock

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<sup>95</sup> See Section IV.A.8.d (Processed Demand), below.

<sup>96</sup> We have previously referred to the *contingent bidding limit* as the *activity upper limit*, and similarly, to the *contingent bidding percentage* as the *activity limit percentage*. *Auction 105 Procedures Public Notice*, 35 FCC Rcd at 2194-2195, paras. 182-184; *Auction 107 Procedures Public Notice*, 35 FCC Rcd at 8455-8456, paras. 172-176. We modify those terms to remind bidders that bids submitted using the contingent bidding limit will be applied only under certain circumstances. For Round 1, the contingent bidding limit would be 100% of the bidder's initial bidding eligibility.

<sup>97</sup> See Section IV.A.8.c (Partial Application of Bids), below, regarding partial application of bids.

<sup>98</sup> See *Broadcast Incentive Auction Scheduled to Begin on March 29, 2016; Procedures for Competitive Bidding in Auction 1000, Including Initial Clearing Target Determination, Qualifying to Bid, and Bidding in Auctions 1001 (Reverse) and 1002 (Forward)*, AU Docket No. 14-252, WT Docket No. 12-269, GN Docket No. 12-268, MB

(continued....)

auction relies on precisely identifying the point at which demand decreases to equal supply to determine winning bidders and final prices. Allowing waivers would create uncertainty with respect to the exact level of bidder demand and would interfere with the basic clock price-setting and winner determination mechanism. Moreover, uncertainty about the level of demand would affect the way bidders' requests to reduce demand are processed by the bidding system, as addressed below.<sup>99</sup> We seek comment on this approach.

## 7. Acceptable Bids

### a. Minimum Opening Bids

69. We propose to establish minimum opening bid amounts for Auction 110. The bidding system will not accept bids lower than these amounts. Based on our experience in past auctions, setting minimum opening bid amounts judiciously is an effective tool for accelerating the competitive bidding process.<sup>100</sup> For Auction 110, we propose to establish initial clock prices, or minimum opening bids, by PEA, as set forth below.

70. For Auction 110, we propose to calculate minimum opening bid amounts based on bandwidth and license area population, which is similar to our approach in previous spectrum auctions, using a tiered approach under which the calculation will vary by market population.<sup>101</sup> We propose minimum opening bid amounts for a block in a PEA based on \$0.06 per MHz-pop for PEAs 1–50 and \$0.02 per MHz-pop for all other PEAs, subject to a minimum of \$1000.<sup>102</sup> We seek comment on these minimum opening bid amounts, which are specified in Attachment A. If commenters believe that these minimum opening bid amounts would result in unsold licenses or are not reasonable amounts, they should explain their reasoning and propose an alternative approach. For example, if a commenter believes that opening bids should be lower in PEAs that are largely covered by a Cooperative Planning Area or Periodic Use Area, it should explain how those bids should be adjusted. Commenters should support their claims with valuation analyses and suggested amounts or formulas for minimum opening bids.

71. In establishing minimum opening bid amounts, we particularly seek comment on factors that could reasonably affect bidders' valuation of the spectrum, including the type of service offered, market size, population covered by the proposed facility, whether there is significant overlap with a Cooperative Planning Area or Periodic Use Area, and any other relevant factors.

72. Commenters may also wish to address the general role of minimum opening bids in managing the pace of the auction. For example, commenters could compare using minimum opening bids—e.g., by setting higher minimum opening bids to reduce the number of rounds it takes licenses to reach their final prices—to other means of controlling auction pace, such as changing the bidding schedule, the activity requirement percentage, or the bid increment percentage.

### b. Clock Price Increments

73. Under our proposed clock phase procedures for Auction 110, after bidding in the first round and before each subsequent round, the FCC auction bidding system would announce the start-of-

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Docket No. 15-146, Public Notice, 30 FCC Rcd 8975, 9077, para. 213 (2015); *Auctions 101 and 102 Procedures Public Notice*, 33 FCC Rcd at 7650, para. 245; *Auction 103 Procedures Public Notice*, 34 FCC Rcd at 5591, para. 195; *Auction 105 Procedures Public Notice*, 35 FCC Rcd at 2196, para. 188; *Auction 107 Procedures Public Notice*, 35 FCC Rcd at 8456-57, para. 178.

<sup>99</sup> See Sections V.A.8.a (No Excess Supply Rule for Bids to Reduce Demand) and d. (Processed Demand), below.

<sup>100</sup> See, e.g., *Auction 97 Procedures Public Notice*, 29 FCC Rcd at 8440, para. 193.

<sup>101</sup> We note that minimum opening bid amounts in Commission auctions are not meant to predict the value of the spectrum. See, e.g., *Auction 103 Procedures Public Notice*, 34 FCC Rcd at 5591, para. 197.

<sup>102</sup> See note 61 (concerning rounding), above.

round price<sup>103</sup> and the clock price for the upcoming round—that is, the lowest price and the highest price at which bidders can specify the number of blocks they demand during the round. As long as aggregate demand for blocks in the product exceeds the supply of blocks, the start-of-round price would be equal to the clock price from the prior round. If demand equaled supply at a price in a previous round, then the start-of-round price for the next round would be equal to the price at which demand equaled supply. If demand was less than supply in the previous round, then the start-of-round price for the next round would not increase.

74. We propose to set the clock price for blocks in a specific product for a round by adding a percentage increment to the start-of-round price.<sup>104</sup>

75. We propose to set the increment percentage within a range of 5% to 20% inclusive, to set the initial increment percentage at 10%, and potentially to adjust the increment as rounds continue. We further propose that the total dollar amount of the increment (the difference between the clock price and the start-of-round price) would not exceed a certain amount. We propose to set this cap on the increment initially at \$50 million and potentially to adjust the cap as rounds continue. The proposed 5% to 20% increment range and cap will allow us to set a percentage that manages the auction pace and takes into account bidders' needs to evaluate their bidding strategies while moving the auction along quickly.

76. We seek comment on these proposed procedures.

#### c. Intra-Round Bids

77. We propose generally to permit a bidder to make intra-round bids by indicating a point between the start-of-round price and the clock price at which its demand for blocks changes. In placing an intra-round bid, a bidder would indicate a specific price and a quantity of blocks it demands if the price for blocks should increase beyond that price. For example, if a bidder has processed demand of two blocks at the start of the round price of \$200, but wishes to hold only one block if the price increases by more than \$10 (assuming the bid increment is more than \$10), the bidder will indicate a bid quantity of two at a price of \$210 (\$200+\$10). Similarly, if the bidder wishes to reduce its demand to zero if the price increases at all above \$200, the bidder will indicate a bid quantity of zero at the start-of-round price of \$200.

78. Intra-round bids would be optional; a bidder may choose to express its demands only at the clock prices. This proposal to permit intra-round bidding would allow the auction system to use relatively large increments, thereby speeding the auction, without running the risk that a jump in the clock price will overshoot the market clearing price—the point at which demand for blocks equals the available supply. We seek comment on the proposal to allow intra-round bids.

### 8. Bids to Change Demand, Bid Types, and Bid Processing

79. Under the ascending clock auction format we propose for Auction 110, a bidder would indicate in each round the number of blocks in each product that it demands at a given price, subject to the in-band limit of four discussed above. A bidder that wishes to change the quantity it demands (relative to its demands from the previous round as processed by the bidding system) would express its demands at the clock price or at an intra-round price. A bidder that is willing to maintain the same demand in a product at the new clock price would bid for that quantity at the clock price, indicating that it is willing to pay up to that price, if need be, for the specified quantity. Bids to maintain demand would always be applied by the auction bidding system.

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<sup>103</sup> The start-of-round price is also referred to as the posted price of the previous round.

<sup>104</sup> For example, if the start-of-round price for a block in a given product is \$10,000, and the percentage increment is 20%, then the clock price for the round will be \$12,000. The result of the clock price calculation will be rounded up to the nearest \$1,000 for results above \$10,000 and rounded up to the nearest \$100 for results below \$10,000.

80. In order to facilitate bidding for multiple blocks in a PEA, we propose that bidders will be permitted to make two types of bids: simple bids and switch bids. A “simple” bid indicates a desired quantity of blocks in a product at a price (either the clock price or an intra-round price). A “switch” bid allows the bidder to request to move its demand for a quantity of blocks from Cat1 to Cat2, or vice versa, within the same PEA at a price for the “from” category (either the clock price or an intra-round price).<sup>105</sup> “Switch” bids are allowed only in PEAs with two categories.

81. We do not propose to incorporate any form of package bidding procedures into the clock phase of Auction 110. Package bidding would add complexity to the bidding process, and we do not see significant benefit from such procedures, given the clock auction and assignment phase format we are proposing. A bidder may bid on multiple blocks in a PEA and in multiple PEAs. As set forth below, we propose that the assignment phase will assign contiguous blocks to winners of multiple blocks in a category in a PEA and give bidders an opportunity to express their preferences for specific frequency blocks, thereby facilitating aggregations of licenses.

82. We propose bid processing procedures that the auction bidding system would use, after each bidding round, to process bids to change demand to determine the *processed demand* of each bidder for each product and a *posted price* for each product that would serve as the start-of-round price for the next round.

**a. No Excess Supply Rule for Bids to Reduce Demand**

83. Under the ascending clock auction format, the FCC auction bidding system will not allow a bidder to reduce the quantity of blocks it demands in a product if the reduction would result in aggregate demand falling below (or further below) the available supply of blocks in the product. Therefore, if a bidder submits a simple bid to reduce the number of blocks for which it has processed demand as of the previous round, the FCC auction bidding system will treat the bid as a request to reduce demand that will be applied only if the “no excess supply” rule would be satisfied. Similarly, if a bidder submits a switch bid to move its demand for a quantity of blocks from Cat1 to Cat2 within the same PEA, the FCC auction bidding system will treat the bid as a request that will be applied only if the “no excess supply” rule would be satisfied for Cat1 in the PEA.

**b. Eligibility Rule for Bids to Increase Demand**

84. The bidding system will not allow a bidder to increase the quantity of blocks it demands in a product if the total number of bidding units associated with the bidder’s demand exceeds the bidder’s bidding eligibility for the round. Therefore, if a bidder submits a simple bid to increase the number of blocks for which it has processed demand as of the previous round, the FCC auction bidding system will treat the bid as a request to increase demand that will be applied only if that would not cause the bidder’s activity to exceed its eligibility.<sup>106</sup>

**c. Partial Application of Bids**

85. Under our proposed bid processing procedures and as in all previous FCC spectrum auctions using the clock auction format, a bid (simple bid or switch bid) that involves a reduction from the bidder’s previous demands could be applied partially—that is, reduced by fewer blocks than requested in the bid—if excess demand is insufficient to support the entire reduction. Accordingly, the bidding system will apply a bidder’s request to reduce demand as much as possible consistent with the no excess supply rule. A switch bid may be applied partially, but the increase in demand in the “to” category will always match in quantity the reduction in the “from” category. A simple bid to increase a bidder’s demand could be applied partially if the total number of bidding units associated with the bidder’s

<sup>105</sup> See the Clock Phase Technical Guide for more details on switch bids and other proposed auction procedures.

<sup>106</sup> The eligibility rule for bids to increase demand does not apply to switch bids because the bidder’s processed activity does not change when a switch bid is applied.

demand exceeds the bidder's bidding eligibility for the round. Therefore, the bidding system will accommodate a bidder's request to increase demand as much as possible as long as the bidder's activity does not exceed its eligibility.

**d. Processed Demand**

86. We propose to process bids to change demand in order of price point after a round ends,<sup>107</sup> where the price point represents the percentage of the bidding interval for the round.<sup>108</sup> Under this proposal, the FCC auction bidding system would process bids to change demand in ascending order of price point, first considering intra-round bids in order of price point and then bids at the clock price. The system would consider bids at the lowest price point across all PEAs, then look at bids at the next price point in all areas, and so on.<sup>109</sup> As it considers each submitted bid during bid processing, the FCC auction bidding system would determine the extent to which there is excess demand in each PEA at that point in the processing in order to determine whether a bidder's request to reduce demand can be applied. Likewise, the auction bidding system would evaluate the activity associated with the bidder's most recently determined demands at that point in the processing to determine whether a request to increase demand can be applied.

87. Because in any given round some bidders may request to increase demands for licenses while others may request reductions, the price point at which a bid is considered by the auction bidding system can affect whether it is applied. In addition to proposing that bids be considered by the system in increasing order of price point, we further propose that bids not applied because of insufficient aggregate demand or insufficient eligibility be held in a queue and considered, again in order, if there should be excess demand or sufficient eligibility later in the processing after other bids are processed.

88. Therefore, under our proposed procedures, once a round closes, the auction system would process bids to change demand by first considering the bid submitted at the lowest price point and determining the maximum extent to which that bid can be applied given bidders' demands as determined at that point in the bid processing. If the bid can be applied (either in full or partially), the number of licenses the bidder holds at that point in the processing would be adjusted, and aggregate demand would be recalculated accordingly. If the bid cannot be applied in full, the unfulfilled bid, or portion thereof, would be held in a queue to be considered later during bid processing for that round. The FCC auction bidding system would then consider the bid submitted at the next highest price point, applying it in full, in part, or not at all, given the most recently determined demands of bidders. Any unfulfilled requests would again be held in the queue, and aggregate demand would again be recalculated. Every time a bid or part of a bid is applied, the unfulfilled bids held in the queue would be reconsidered, in the order of the original price points of the bids (and by pseudo-random number, in the case of tied price points). The auction bidding system would not carry over unfulfilled bid requests to the next round, however. The bidding system would advise bidders of the status of their bids when round results are released.

**e. Price Determination**

89. We further propose bid processing procedures that would determine, based on aggregate demand, the posted price for each product for the round that will serve as the start-of-round price for the next round. Under our proposal, the uniform price for all of the blocks in a product would increase from round to round as long as there is excess demand for blocks in the product but would not increase if aggregate demand does not exceed the available supply of blocks.

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<sup>107</sup> Bids to maintain demand are always applied before the bidding system considers bids to change demand.

<sup>108</sup> For example, if the start-of-round price is \$5,000 and the clock price is \$6,000, a price of \$5,100 will correspond to the 10% price point, since it is 10% of the bidding interval between \$5,000 and \$6,000.

<sup>109</sup> We propose that, if there are multiple bids at a single price point, the system will process bids in order of a bid-specific pseudo-random number.

90. We propose that if, at the end of a round, the aggregate demand for blocks in the product exceeds the supply of blocks, the posted price would equal the clock price for the round. If a reduction in demand was applied during the round and caused demand in the product to equal supply, the posted price would be the price at which the reduction was applied. If aggregate demand is less than or equal to supply and no bid to reduce demand was applied for the product, then the posted price would equal the start-of-round price for the round. The range of acceptable bid amounts for the next round would be set by adding the percentage increment to the posted price.

91. When a bid to reduce demand can be applied only partially, the uniform price for the product would stop increasing at that point, since the partial application of the bid would result in demand falling to equal supply. Hence, a bidder that makes a bid to reduce demand that cannot be fully applied would not face a price for the remaining demand that is higher than its bid price.

92. After the bids of the round have been processed, if the stopping rule has not been met, the FCC auction bidding system would announce clock prices to indicate a range of acceptable bids for the next round. Each bidder would be informed of its processed demand and the extent of excess demand for blocks in each product.

93. We seek comment on our proposals regarding bid processing for Auction 110.

#### **9. Winning Bids in the Clock Phase**

94. Under our proposed clock auction format for Auction 110, if the reserve price to meet the CSEA requirement is met in the clock phase, bidders with processed demand for a product at the time the stopping rule is met will become the winning bidders of licenses corresponding to that number of blocks and will be assigned specific frequencies in the assignment phase. The final clock phase price for a generic block in a product would be the posted price for the final round.<sup>110</sup>

#### **B. Assignment Phase**

95. Following the conclusion of the clock phase, if the reserve price to meet the CSEA requirement has been met, we propose to conduct an assignment phase using a series of single bidding rounds, where each clock phase winning bidder will have the opportunity to indicate its preferences for specific frequency licenses corresponding to the generic blocks it won in the clock phase. A bidder will be assigned contiguous frequencies for blocks it wins within each category and PEA regardless of whether it chooses to bid in the assignment phase.

#### **1. Sequencing and Grouping of PEAs**

96. We propose to sequence assignment rounds to make it easier for bidders to incorporate frequency assignments from previously assigned areas into their bid preferences for other areas, recognizing that bidders winning multiple blocks of licenses generally will prefer contiguous blocks across adjacent PEAs. To that end, we propose to conduct rounds for the largest markets first to enable bidders to establish a “footprint” from which to work.

97. Specifically, we propose to conduct a separate assignment round for each of the top 20 PEAs and to conduct these assignment rounds sequentially, beginning with the largest PEA.<sup>111</sup> Once the

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<sup>110</sup> This and other Auction 110 bid processing details are addressed in the Clock Phase Technical Guide.

<sup>111</sup> In Auction 1002, we conducted sequential rounds for the top 40 PEAs and for Auction 102, we did the same. We altered our proposal for Auctions 103 and 107, in order to further speed up the assignment phase by including PEAs 21-40 in the simultaneous REAG assignment rounds. Our experience suggests that this proposed change will not adversely affect bidders. We will consider the results of Auction 107, as well as any commenter input, before determining our final procedures.

top 20 PEAs have been assigned, we propose to conduct, for each Regional Economic Area Grouping (REAG),<sup>112</sup> a series of assignment rounds for the remaining PEAs within that region.

98. We further propose, where feasible, to group into a single market for assignment any non-top 20 PEAs within a region in which the same winning bidders will be assigned the same number of blocks in each category, and all are subject to the small markets bidding cap or all are not subject to the cap, which will also help maximize contiguity across PEAs. We propose to sequence the assignment rounds within a REAG in descending order of population for a PEA group or individual PEA. We further propose to conduct the bidding for the different REAGs in parallel in order to reduce the total amount of time required to complete the assignment phase.

99. We seek comment on these proposals for sequencing assignment rounds, including conducting separate rounds for the top 20 PEAs, and on our proposal to group PEAs for bidding under some circumstances within REAGs. Are there concerns that, because blocks in the same category but in different PEAs within a REAG may have different restrictions on their use, that the bidding system should not group PEAs for bidding? Or would the potential reduction in the number of bidding rounds outweigh such concerns?

## 2. Acceptable Bids and Bid Processing

100. Under our proposal, in each assignment round, a bidder will be asked to assign a price to one or more possible frequency assignments for which it wishes to express a preference, consistent with its winnings for generic blocks in the clock phase. The price will represent a maximum payment that the bidder is willing to pay, in addition to the price established in the clock phase for the generic blocks, for the frequency-specific license or licenses in its bid. In PEAs where there are two categories and a bidder won generic blocks in both categories, we propose that bidder submit its preferences for blocks won in Cat1 and Cat2 separately, rather than submitting bids for preferences that include blocks in both categories. That is, if a bidder won one block in Cat1 and two blocks in Cat2, it would not be able to submit a single bid amount for an assignment that included both categories. Instead, it would submit its bid or bids for assignments in Cat1 separately from its bid or bids for assignments in Cat2.

101. We propose to use an optimization approach to determine the winning frequency assignment for each category in each PEA or PEA group. We propose that the auction system will select the assignment that maximizes the sum of bid amounts among all assignments that satisfy the contiguity requirements.<sup>113</sup> We propose that the additional price a bidder will pay for a specific frequency assignment (above the clock phase price) will be calculated consistent with a generalized “second price” approach—that is, the winner will pay a price that would be just sufficient to result in the bidder receiving that same winning frequency assignment while ensuring that no group of bidders is willing to pay more for an alternative assignment that satisfies the contiguity restrictions.<sup>114</sup> This price will be less than or equal to the price the bidder indicated it was willing to pay for the assignment. We propose to determine prices in this way because it facilitates bidding strategy for the bidders, encouraging them to bid their full value for the assignment, knowing that if the assignment is selected, they will pay no more than would be necessary to ensure that the outcome is competitive.<sup>115</sup>

102. We seek comment on these proposed procedures.

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<sup>112</sup> The six REAGs are: Northeast, Southeast, Great Lakes, Mississippi Valley, Central, and West.

<sup>113</sup> Furthermore, if multiple blocks in a category in a PEA remain unsold, the unsold licenses will be contiguous.

<sup>114</sup> The Assignment Phase Technical Guide provides mathematical details of this proposal.

<sup>115</sup> We propose to determine prices using the Vickrey-nearest approach, which is described in the Assignment Phase Technical Guide.

## V. TUTORIALS AND ADDITIONAL INFORMATION FOR APPLICANTS

103. We intend to provide additional information on the bidding system and to offer demonstrations and other educational opportunities for applicants in Auction 110 to familiarize themselves with the FCC auction application system and the auction bidding system. For example, we intend to release online tutorials that will help applicants understand the procedures to be followed in the filing of their auction short-form applications (FCC Form 175) and on the bidding procedures for Auction 110.

## VI. PROCEDURAL MATTERS

### A. Supplemental Initial Regulatory Flexibility Analysis.

104. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),<sup>116</sup> we have prepared this Supplemental Initial Regulatory Flexibility Analysis (Supplemental IRFA) of the possible significant economic impact on small entities of the policies and rules addressed in this Public Notice to supplement the Commission's Initial and Final Regulatory Flexibility Analyses completed in the *3.45 GHz FNPRM*, the *3.45 GHz Second Report and Order*, and other Commission orders pursuant to which Auction 110 will be conducted.<sup>117</sup> Written public comments are requested on this Supplemental IRFA. Comments must be identified as responses to the Supplemental IRFA and must be filed by the same deadline for comments specified on the first page of this Public Notice. We will send a copy of this Public Notice, including this Supplemental IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).<sup>118</sup> In addition, this Public Notice and Supplemental IRFA (or summaries thereof) will be published in the *Federal Register*.<sup>119</sup>

105. *Need for, and Objectives of, the Proposed Rules.* This Public Notice sets forth the proposed auction procedures for those entities that seek to bid to acquire licenses in Auction 110. This Public Notice seeks comment on proposed procedural rules to govern Auction 110, which will auction flexible-use licenses for the 3.45 GHz Service. This process is intended to provide notice of and adequate time for potential applicants to comment on proposed auction procedures.<sup>120</sup> To promote the efficient and fair administration of the competitive bidding process for all Auction 110 participants, we seek comment on the following proposed procedures:

- a requirement that any applicant seeking to participate in Auction 110 certify in its short-form application, under penalty of perjury, that it has read the public notice adopting procedures for Auction 110 that will be released in advance of the short-form deadline, and that it has familiarized itself with those procedures and the requirements for obtaining a license and operating facilities in the 3.45–3.55 GHz band;
- establishment of bidding credit caps for eligible small businesses, very small businesses, and rural service providers in Auction 110;
- designation of AT&T, T-Mobile, and Verizon Wireless as nationwide providers for purposes of the prohibition of certain communications;

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<sup>116</sup> 5 U.S.C. § 603. The RFA, 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996, Pub. L. No. 104-121, 110 Stat. 857 (1996).

<sup>117</sup> See *Facilitating Shared Use in the 3100-3550 MHz Band*, WT Docket No. 19-348, Report and Order and Further Notice of Proposed Rulemaking, Appx. B, 35 FCC Rcd 11078, 11126-33, paras. 1-21 (2020) (*3.45 GHz FNPRM*); *3.45 GHz Second Report and Order*, Appx. B at 89, para. 1.

<sup>118</sup> See 5 U.S.C. § 603(a).

<sup>119</sup> See *id.*

<sup>120</sup> See *id.* § 309(j)(3)(E)(i) (requiring the Commission to seek comment on auction procedures).

- use of anonymous bidding/limited information procedures which will not make public until after bidding has closed: (1) the PEAs that an applicant selects for bidding in its short-form application (FCC Form 175), (2) the amount of any upfront payment made by or on behalf of an applicant for Auction 110, (3) an applicant's bidding eligibility, and (4) any other bidding-related information that might reveal the identity of the bidder placing a bid;
- establishment of an additional default payment of 15% under section 1.2104(g)(2) of the rules in the event that a winning bidder defaults or is disqualified after the auction;
- a specific upfront payment amount for products available in Auction 110;
- establishment of a bidder's initial bidding eligibility in bidding units based on that bidder's upfront payment through assignment of a specific number of bidding units for each generic block;
- establishment of a single aggregate reserve price for the auction to ensure that total cash proceeds from the auction equal at least \$14,775,354,330;
- provision of delegated authority to OEA, in conjunction with WTB, to exercise its discretion to delay, suspend, or cancel bidding in Auction 110 for any reason that affects the ability of the competitive bidding process to be conducted fairly and efficiently;
- retention by OEA of discretion to adjust the bidding schedule in order to manage the pace of Auction 110;
- use of a simultaneous stopping rule for Auction 110, under which all blocks in both categories in all PEAs would remain available for bidding until the bidding stops in every PEA;
- use of a clock auction format for Auction 110 under which each qualified bidder will indicate in successive clock bidding rounds its demands for categories of generic blocks in specific geographic areas. Proposed categories are determined based on the framework set forth in the 3.45 GHz Second Report and Order, in which the lower 40 megahertz of the band—between 3450-3490 MHz corresponding to the A through D blocks—are affected differently than the upper 60 megahertz in certain PEAs in the band;
- to permit bidders to make two types of bids: simple bids and switch bids. A “simple” bid indicates a desired quantity of blocks in a product at a price (either the clock price or an intra-round price). A “switch” bid allows the bidder to request to move its demand for a quantity of blocks from Cat1 to Cat2, or vice versa, within the same PEA at a price for the “from” category (either the clock price or an intra-round price);
- use of an activity rule that would require bidders to be active on between 90% and 100% of their bidding eligibility in all regular clock rounds;
- use of an activity rule that does not include a waiver of the rule to preserve a bidder's eligibility;
- a specific minimum opening bid amount for products available in Auction 110;
- establishment of acceptable bid amounts, including clock price increments and intra-round bids, along with a proposed methodology for calculating such amounts;
- a proposed methodology for processing bids and requests to reduce and increase demand; and
- establishment of an assignment phase that will determine which frequency-specific licenses will be won by the winning bidders of generic blocks during the clock phase.

106. The proposed procedures for the conduct of Auction 110 constitute the more specific implementation of the competitive bidding rules contemplated by Parts 1 and 27 of the Commission's

rules, the *3.45 GHz Second Report and Order*, and relevant competitive bidding orders, and are fully consistent therewith.<sup>121</sup>

107. *Legal Basis.* The Commission's statutory obligations to small businesses under the Communications Act of 1934, as amended, are found in sections 309(j)(3)(B) and 309(j)(4)(D). The statutory basis for the Commission's competitive bidding rules is found in various provisions of the Communications Act of 1934, as amended, including 47 U.S.C. §§ 154(i), 301, 302, 303(r), 304, 307, and 309(j). The Commission has established a framework of competitive bidding rules, updated most recently in 2015, pursuant to which it has conducted auctions since the inception of the auctions program in 1994 and would conduct Auction 110.<sup>122</sup>

108. *Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply.* The RFA directs agencies to provide a description of, and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules and policies, if adopted.<sup>123</sup> The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."<sup>124</sup> In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.<sup>125</sup> A "small business concern" is one which: (1) is independently owned and operated, (2) is not dominant in its field of operation, and (3) satisfies any additional criteria established by the SBA.<sup>126</sup>

109. As noted above, Regulatory Flexibility Analyses were incorporated into the *3.45 GHz FNPRM* and the *3.45 GHz Second Report and Order*. In those analyses, we described in detail the small entities that might be significantly affected. In this Public Notice, we hereby incorporate by reference the descriptions and estimates of the number of small entities from the previous Regulatory Flexibility Analyses in the *3.45 GHz FNPRM*<sup>127</sup> and the *3.45 GHz Second Report and Order*.<sup>128</sup>

110. *Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities.* The Commission designed the auction application process itself to minimize reporting and compliance requirements for applicants, including small business applicants. In the first part of the Commission's two-phased auction application process, parties desiring to participate

<sup>121</sup> See generally *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2360-75, paras. 68-159.

<sup>122</sup> See generally 47 CFR Part 1, Subpart Q; see also *id.* §§ 73.5000, 73.5002-.5003, 73.5005-.5009. In promulgating those rules, the Commission conducted numerous RFA analyses to consider the possible impact of those rules on small businesses that might seek to participate in Commission auctions. See, e.g., *Implementation of Section 309(j) of the Communications Act—Competitive Bidding*, PP Docket No. 93-253, Notice of Proposed Rule Making, Appx., 8 FCC Rcd 7635, 7666 (1993); *Amendment of Part 1 of the Commission's Rules—Competitive Bidding Proceeding*, WT Docket No. 97-82, Order, Memorandum Opinion and Order and Notice of Proposed Rule Making, Appx. C, 12 FCC Rcd 5686, 5749-53 (1997); *Updating Part 1 Report and Order*, Appx. B, 30 FCC Rcd at 7613-28, paras. 1-48. In addition, a Final Regulatory Flexibility Analysis (FRFA) is included in the concurrent rulemaking order that adopts rule provisions relevant to this Public Notice. See generally *3.45 GHz Second Report and Order*, Appx. B at 89-101, paras. 1-30.

<sup>123</sup> 5 U.S.C. § 603(b)(3).

<sup>124</sup> *Id.* § 601(6).

<sup>125</sup> *Id.* § 601(3) (incorporating by reference the definition of "small business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

<sup>126</sup> 15 U.S.C. § 632.

<sup>127</sup> See *3.45 GHz FNPRM*, Appx. B, 35 FCC Rcd at 11127-31, paras. 7-15.

<sup>128</sup> See *3.45 GHz Second Report and Order*, Appx. B at 90-95, paras. 9-18.

in an auction file streamlined, short-form applications in which they certify under penalty of perjury as to their qualifications.<sup>129</sup> Eligibility to participate in bidding is based on an applicant's short-form application and certifications, as well as its upfront payment. In the second phase of the process, winning bidders file a more comprehensive long-form application. Thus, an applicant that fails to become a winning bidder does not need to file a long-form application and provide the additional showings and more detailed demonstrations required of a winning bidder.

111. We do not expect the processes and procedures proposed in this Public Notice will require small entities to hire attorneys, engineers, consultants, or other professionals to participate in Auction 110 and comply with the procedures we ultimately adopt because of the information, resources, and guidance we make available to potential and actual participants. For example, we intend to release an online tutorial that will help applicants understand the procedures for filing the auction short-form application (FCC Form 175). We also intend to make information on the bidding system available and to offer demonstrations and other educational opportunities for applicants in Auction 110 to familiarize themselves with the FCC auction application system and the auction bidding system. By providing these resources as well as the resources discussed below, we expect small business entities who use the available resources to experience lower participation and compliance costs. Nevertheless, while we cannot quantify the cost of compliance with the proposed procedures, we do not believe that the costs of compliance will unduly burden small entities that choose to participate in the auction because the proposals for Auction 110 are similar in many respects to the procedures in recent auctions conducted by the Commission.<sup>130</sup>

112. *Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered.* The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): “(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities.”<sup>131</sup>

113. We have taken steps to minimize any economic impact of our auction procedures on small businesses through, among other things, the many resources we provide potential auction participants. Small entities and other auction participants may seek clarification of or guidance on complying with competitive bidding rules and procedures, reporting requirements, and the FCC's auction bidding system. An FCC Auctions Hotline provides access to Commission staff for information about the auction process and procedures. The FCC Auctions Technical Support Hotline is another resource which provides technical assistance to applicants, including small entities, on issues such as access to or navigation within the electronic FCC Form 175 and use of the FCC's auction bidding system. Small entities may also use the web-based, interactive online tutorial produced by Commission staff to familiarize themselves with auction procedures, filing requirements, bidding procedures, and other matters related to an auction.

114. We also make various databases and other sources of information, including the Auctions program websites and copies of Commission decisions, available to the public without charge, providing a low-cost mechanism for small entities to conduct research prior to and throughout the auction. Prior to and at the close of Auction 110, we will post public notices on the Auctions website, which articulate the procedures and deadlines for the auction. We make this information easily accessible and without charge

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<sup>129</sup> *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2376-77, paras. 163-66.

<sup>130</sup> See generally, e.g., *Auction 103 Procedures Public Notice*, 34 FCC Rcd 5532.

<sup>131</sup> 5 U.S.C. §§ 603(c)(1)-(4).

to benefit all Auction 110 applicants, including small entities, thereby lowering their administrative costs to comply with the Commission's competitive bidding rules.

115. Prior to the start of bidding, eligible bidders will be given an opportunity to become familiar with auction procedures and the bidding system by participating in a mock auction. Further, we intend to conduct Auction 110 electronically over the Internet using its web-based auction system that eliminates the need for bidders to be physically present in a specific location. Qualified bidders also have the option to place bids by telephone. These mechanisms are made available to facilitate participation in Auction 110 by all eligible bidders and may result in significant cost savings for small business entities that use these alternatives. Moreover, the adoption of bidding procedures in advance of the auction, consistent with statutory directive, is designed to ensure that the auction will be administered predictably and fairly for all participants, including small entities.

116. For Auction 110, we propose a \$25 million cap on the total bidding credit amount that may be awarded to an eligible small business and a \$10 million cap on the total bidding credit amount that may be awarded to a rural service provider. In addition, we propose a \$10 million cap on the overall amount of bidding credits that any winning small business bidder may apply to winning licenses in PEAs with a population of 500,000 or less. We seek comment on whether the expected capital requirements associated with operating in the 3.45–3.55 GHz band, the potential number and value of 3.45 GHz Service licenses, past auction data, or any other considerations justify a higher cap for either type of bidding credit, and whether there are convincing reasons for not maintaining parity with the bidding credit caps in other recent spectrum auctions. Based on the technical characteristics of the 3.45–3.55 GHz band and our analysis of past auction data, we anticipate that our proposed caps will allow the majority of small businesses to take full advantage of the bidding credit program, thereby lowering the relative costs of participation for small businesses.

117. These proposed procedures for the conduct of Auction 110 constitute the more specific implementation of the competitive bidding rules contemplated by Parts 1 and 27 of the Commission's rules, the *3.45 GHz Second Report and Order*, and relevant competitive bidding orders, and are fully consistent therewith.<sup>132</sup>

118. *Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rules.* None.

#### **B. Paperwork Reduction Act Analysis**

119. This document contains proposed new information collection requirements. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public and the OMB to comment on the information collection requirements contained in this document, as required by the Paperwork Reduction Act of 1995.<sup>133</sup> In addition, pursuant to the Small Business Paperwork Relief Act of 2002,<sup>134</sup> we seek specific comment on how we might further reduce the information collection burden for small business concerns with fewer than 25 employees.

#### **C. Deadlines and Filing Procedures.**

120. Pursuant to sections 1.415 and 1.419 of the Commission's rules,<sup>135</sup> interested parties may file comments or reply comments on or before the dates indicated on the first page of this document in AU Docket No. 21-62. Comments may be filed using the Commission's Electronic Comment Filing

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<sup>132</sup> See generally *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2360-75, paras. 68-159.

<sup>133</sup> 44 U.S.C. §§ 3501-21.

<sup>134</sup> *Id.* § 3506(c)(4).

<sup>135</sup> 47 CFR §§ 1.415, 1.419.

System (ECFS) or by filing paper copies.<sup>136</sup> We strongly encourage interested parties to file comments electronically.

- *Electronic Filers:* Comments may be filed electronically using the Internet by accessing the ECFS at [www.fcc.gov/ecfs](http://www.fcc.gov/ecfs).
- *Paper Filers:* Parties who choose to file by paper must file an original and one copy of each filing.

121. Filings in response to this Public Notice may be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- **Until further notice, the FCC no longer accepts hand-delivered or messenger-delivered paper filings. This is a temporary measure taken to help protect the health and safety of individuals, and to mitigate the transmission of COVID-19.**<sup>137</sup>
- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701.
- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 45 L Street NE, Washington, DC 20554.

122. *E-mail:* We also request that a copy of all comments and reply comments be submitted electronically to the following address: [auction110@fcc.gov](mailto:auction110@fcc.gov).

123. *People with Disabilities:* To request materials in accessible formats (braille, large print, electronic files, audio format) for people with disabilities, send an e-mail to [fcc504@fcc.gov](mailto:fcc504@fcc.gov) or call the Consumer and Government Affairs Bureau at (202) 418-0530 (voice), (202) 418-0432 (TTY).

124. This proceeding has been designated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.<sup>138</sup> Persons making oral *ex parte* presentations must file a copy of any written presentations or memoranda summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine Period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentations must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda, or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to the Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system

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<sup>136</sup> See generally *Electronic Filing of Documents in Rulemaking Proceedings*, 63 Fed. Reg. 24121 (1998).

<sup>137</sup> *FCC Announces Closure of FCC Headquarters Open Window and Change in Hand-Delivery Filing*, Public Notice, 35 FCC Rcd 2788 (OMD 2020). After COVID-19 restrictions are lifted, the new filing location for hand-carried filings will be 9050 Junction Drive, Annapolis Junction, MD 20701. See *FCC Announces Closing of Filing Window at FCC Headquarters and Permanent Change in the Location and Hours for Receiving Hand-Carried Filings*, Public Notice (OMD July 7, 2020).

<sup>138</sup> See 47 CFR §§ 1.1200(a), 1.1206.

available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

**D. Contact Information.**

125. For further information concerning this proceeding, contact the offices listed below:

**Mobility Division, Wireless Telecommunications Bureau**

3.45–3.55 GHz legal questions: Joyce Jones at (202) 418-1327

**Office of Engineering and Technology**

3.45–3.55 GHz technical questions: Ira Keltz at (202) 418-0616

**Auctions Division, Office of Economics and Analytics**

Auction legal questions: Mary Lovejoy or Andrew McArdell at  
(202) 418-0660

General auction questions: Auctions Hotline at (717) 338-2868

**Office of Communications Business Opportunities**

For questions concerning small business inquiries: (202) 418-0990

126. Action by the Commission on March 17, 2021: Acting Chairwoman Rosenworcel issuing a statement.

**ATTACHMENT A:  
Proposed Upfront Payment and Minimum Opening Bid Amounts**

This page was intentionally inserted as a placeholder for Attachment A, which is available as a separate file.

**STATEMENT OF  
ACTING CHAIRWOMAN JESSICA ROSENWORCEL**

Re: *Facilitating Shared Use in the 3100-3550 MHz Band*, WT Docket No. 19-348, Second Report and Order (March 17, 2021)

*Auction of Flexible-Use Service Licenses in the 3.45-3.55 GHz Band*, AU Docket No. 21-62 (March 17, 2021)

As the Acting Chairwoman of the Federal Communications Commission, I know firsthand that our nation's economic recovery and security in a post-pandemic world depends on our ability to lead in fifth-generation wireless technologies, or 5G.

Every day I see this technology advancing and the innovation it can deliver growing. And every day I am reminded that we have more work to do before the benefits of this service can reach everyone, everywhere.

That might sound like a lofty goal, but I am an optimist. While we may disagree on some details from time to time, I know that each one of my colleagues at the Federal Communications Commission is equally committed to ensuring that the United States leads in 5G. I welcome their ideas, their resolve, and their partnership, and I look forward to building this future for the benefit of the American people.

Back to the here and now. Most of the country has yet to experience the benefits of a true 5G network. The out-there innovations it can deliver are still a ways off because so many of them are not about connectivity delivered via phones. Plus, for so many consumers, the present is confusing, with carriers providing different versions of 5G, which can sometimes feel a lot like the 4G they already have. In part, this is due to the fact that carriers don't always have the airwaves they need to provide consistent and widespread coverage at this time.

Today we take action to change that. We take action that will move us closer to 5G service that is fast, secure, resilient, and—most importantly—available everywhere in the country. We accomplish that by adopting rules and auction procedures that will make available 100 megahertz of prime mid-band spectrum in the 3.45-3.55 GHz band available for 5G this year. This offers real opportunity because during the past few years the United States was slow, relative to other countries, to recognize the importance of mid-band spectrum for 5G. This meant we were late to bring these airwaves to market. So mid-band spectrum has been the critical component that is missing and our action here helps fix that.

Of course, our actions today are about much more than just spectrum. They're also about how we advance new network technology to build a better future. So rather than just extending the same-old, same-old policies of the past, we are doing some things differently.

*First*, today's decision includes the most aggressive build-out obligations of any spectrum auctioned for 5G to date. As a result, we insist on getting infrastructure built *twice as fast* as what the agency has required in other recent 5G bands.

*Second*, today's decision commits to the idea that successful auctions have many bidders. To understand why this is important, take the FCC's recent C-Band auction. More than 90 percent of the 5,684 licenses that were available in that auction were won by the top two bidders. So here we take steps to increase the range of actors willing to participate in our auctions. We do this by adopting a pre-auction spectrum aggregation limit that will expand opportunity for service providers in every market in the United States. In addition, thanks to the leadership of my colleague, Commissioner Starks, we will auction this spectrum in smaller blocks in order to encourage broader participation from smaller providers and create more opportunities to win licenses.

*Third*, today's decision thinks about this band in a coordinated way, so we don't end up increasing interference and decreasing the utility of the limited mid-band resources we have available to us. We do that by adopting rules that will ensure that the higher power uses in the 3.45 GHz band do not undermine the considerable investments that have been made in the adjacent CBRS band. And while in the past different parts of our government have pulled in different directions when it comes to spectrum policy, here we have worked closely with our federal partners at the National Telecommunications and Information Administration and the Department of Defense to ensure a whole-of-government approach.

Most importantly, the path we lay out today is the one that ensures that we will meet the requirement from Congress in last year's appropriations law that we work with our federal partners to bring the 3.45 GHz band to auction by the end of this year. It is also the path required to meet as our obligations under the Commercial Spectrum Enhancement Act that our auction recover 110 percent of the Congressionally-approved relocation costs for this band—which stand at roughly \$15 billion.

So think of today's decision as a spectrum stimulus for 5G. It will boost the economy and encourage investment in our 5G future.

That's progress we can be proud of. But we are not slowing down here. I have begun to work with our federal partners to look at the next tranche of mid-band spectrum in the 3.1-3.45 GHz band. And while the law compelled certain outcomes in our decision today, it is my hope that our future efforts to find more spectrum for 5G will enjoy the flexibility to explore every option available to us, including the opportunity to pursue more innovative spectrum sharing policies like we have in the CBRS band. I also have instructed the Wireless Telecommunications Bureau to consider opportunities to rationalize the entire 3 GHz band to increase efficiency while also being mindful of the importance of unlicensed use.

Thank you to those at the agency who worked on these items. There are too many of you to name, but it includes staff from the Wireless Telecommunications Bureau, the Office of Economics and Analytics, the Office of Engineering and Technology, the Enforcement Bureau, the Office of General Counsel, the Office of the Managing Director, and last but not least, the Office of Communications Business Opportunities.